LEGENDARY ISLANDS OF THE ATLANTIC

WILLIAM H. BABCOCK

AMERICAN GEOGRAPHICAL SOCIETY
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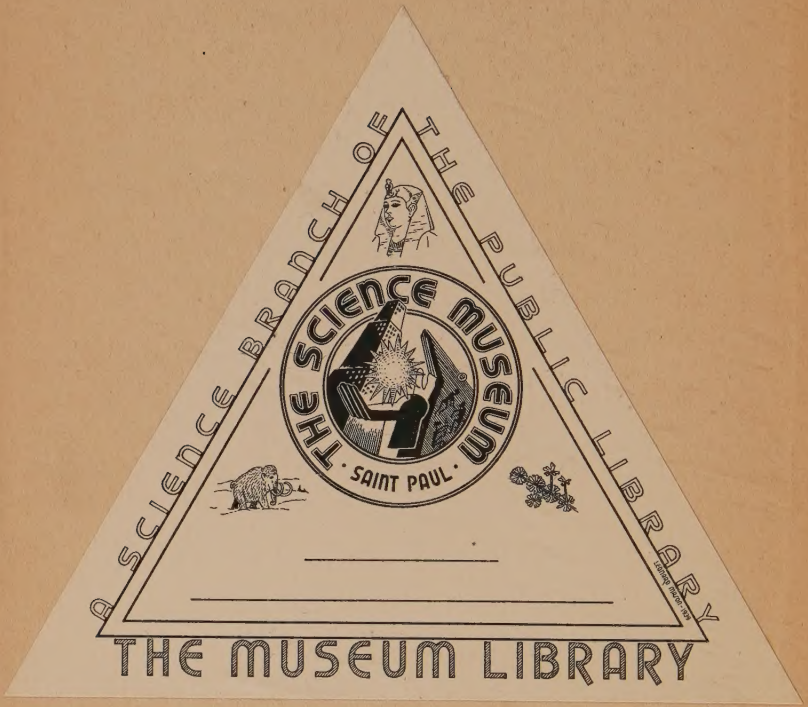
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AMERICAN GEOGRAPHICAL SOCIETY
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W. L. G. JOERG, *Editor*

LEGENDARY ISLANDS OF THE ATLANTIC

A Study in Medieval Geography

BY

WILLIAM H. BABCOCK
Author of "Early Norse Visits to North America"

NEW YORK
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CHAPTER I

INTRODUCTION

We cannot tell at what early era the men of the eastern Mediterranean first ventured through the Strait of Gibraltar out on the open ocean, nor even when they first allowed their fancies free rein to follow the same path and picture islands in the great western mystery. Probably both events came about not long after these men developed enough proficiency in navigation to reach the western limit of the Mediterranean. We are equally in lack of positive knowledge as to what seafaring nation led the way.

The weight of authority favors the Phoenicians, but there are some indications in the more archaic of the Greek myths that the Hellenic or pre-Hellenic people of the Minoan period were promptly in the field. These bequests of an olden time are most efficiently exploited, in the matter-of-fact and very credulous "Historical Library" of Diodorus Siculus,[1] about the time of Julius Caesar, who feels himself fully equipped with information as to the far-ranging campaigns of Hercules, Perseus, and other worthies. His identifications of tribes, persons, and places find an echo which may be called modern in Hakluyt's map of 1587,[2] illustrating Peter Martyr, which shows the Cape Verde Islands as Hesperides and Gorgades vel Medusiae. But this, though curious, is, of course, irrelevant as corroboration. Diodorus himself was a long way from his material in point of time, but from him we may at least possibly catch some glimmer of the origin of the mythical narratives, some refraction of the events that suggested them.

[1] The Historical Library of Diodorus the Sicilian, in 15 Books, to which are added the fragments of Diodorus, and those published by H. Valesius, I. Rhodomannus, and F. Ursinus, transl. by G. Booth, Esq., 2 vols., London, 1814; reference in Vol. 1, Bk. 3, Ch. 4, p. 195, and Bk. 4, Ch. 1, pp. 235 and 243.

[2] A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, p. 131.

Early Accounts of Big Ships

Small coasting, and incidentally sea-ranging, vessels must be of great antiquity, for the record of great ships capable of carrying hundreds of men and prolonging their voyages for years extends very far back indeed. We may recall the Scriptural item incidentally given of the fleets of Hiram, King of Tyre, and Solomon, King of Israel: "For the king had at sea a navy of Tharshish with the navy of Hiram: once in three years came the navy of Tharshish, bringing gold, and silver, ivory, and apes, and peacocks."[3] Tharshish is generally understood to have been Tartessus by the Guadalquivir beyond the western end of the Mediterranean. The elements of these exotic cargoes indicate, rather, traffic across the eastern seas. No doubt "ship of Tarshish" had come (like the term East Indiaman) to have a secondary meaning, distinguishing, wherever used, a special type of great vessel of ample capacity and equipment, named from the long voyage westward to Spain, in which it was first conspicuously engaged. But this would carry back we know not how many centuries the era of huge ships sailing from Phoenicia toward the Atlantic and seemingly able to go anywhere; with the certainty that lesser craft had long anticipated them on the nearer laps of the journey at least.

Corroboration is found in the utterances of a Chinese observer, later in date but apparently dealing with a continuing size and condition. "There is a great sea [the Mediterranean], and to the west of this sea there are countless countries, but Mu-lan-p'i [Mediterranean Spain] is the one country which is visited by the big ships. . . Putting to sea from T'o-pan-ti [the Suez of today] . . . after sailing due west for full an hundred days, one reaches this country. A single one of these (big) ships of theirs carries several thousand men, and on board they have stores of wine and provisions, as well as weaving looms. If one speaks of big ships, there are none so big at those of Mu-lan-p'i."[4]

[3] I Kings, 10: 22.

[4] Chau Ju-Kua: His Work on Chinese and Arab Trade in the Twelfth and Thirteenth Centuries Entitled Chu-fan-chï, transl. and annotated by Friedrich Hirth and W. W. Rockhill, St. Petersburg, 1911, p. 142.

This statement is credited to only a hundred years before Marco Polo. One naturally suspects some exaggeration. But a parallel account, nearly as expansive and very circumstantial, is given in the same work concerning giant vessels sailing in the opposite direction some six hundred years earlier. It begins: "The ships that sail the Southern Sea and south of it are like houses. When their sails are spread they are like great clouds in the sky." Professor Hôlmes, drawing attention to these passages (which he quotes), very justly observes, "who shall say that the mastery of the sea known to have been attained in the Orient 500 A. D. had not been achieved long prior to that date?"[5]

The Atlantis Legend

We may be safe in styling Atlantis (Ch. II) the earliest mythical island of which we have any knowledge or suggestion, since Plato's narrative, written more than 400 years before Christ, puts the time of its destruction over 9,000 years earlier still. It seems pretty certain that there never was any such mighty and splendid island empire contending against Athens and later ruined by earthquakes and engulfed by the ocean. Atlantis may fairly be set down as a figment of dignified philosophic romance, owing its birth partly to various legendary hints and reports of seismic and volcanic action but much more to the glorious achievements of Athens in the Persian War and the apparent need of explaining a supposed shallow part of the Atlantic known to be obstructed and now named the Sargasso Sea. Perhaps Plato never intended that any one should take it as literally true, but his story undoubtedly influenced maritime expectations and legends during medieval centuries. It cannot be said that any map unequivocally shows Atlantis; but it may be that this is because Atlantis vanished once for all in the climax of the recital.

Phoenician Exploration

It may be that Phoenician exploration in Atlantic waters was well developed before 1100 B. C., when the Phoenicians are

[5] W. H. Holmes: Handbook of Aboriginal American Antiquities, *Bur. of Amer. Ethnology, Bull. 60, Part I*, Smithsonian Instn., Washington, D. C., 1919, p. 27.

alleged to have founded Cadiz on the ocean front of southern Spain; but its development at any rate could not have been greatly retarded after that. The new city promptly grew into one of the notable marts of the world, able during a long period to fit out her own fleets and extend her commerce anywhere. It is greatly to be regretted that we have no record of her discoveries. Carthage, a younger but still ancient Tyrian colony, farther from the scene of western action, was not less enterprising and in time quite eclipsed her; but at last she fell utterly, as did Tyre itself, whereas Cadiz, though no longer eminent, continues to exist. However, in her prime Carthage ranged the seas pretty widely; according to Diodorus Siculus, she was much at home in Madeira,[6] and her coins have been found off the shore of distant Corvo of the Azores. But it cannot be said that any of the Phoenician cities, older or newer, has left any traces of exploration among Atlantic islands other than these or added any mythical islands to maps or legends, unless through successors translating into another language. The crowning achievement of the Phoenicians, so far as we know, was the circumnavigation of Africa by mariners in the service of Pharaoh Necho some 700 years before Christ. This would naturally have brought them *en route* into contact with the Canary and Cape Verde Islands, and they would be likely to pass on to the Egyptians and Greeks a report of the attributes of those islands partly embodied in names that might adhere.

The Greeks and Romans

We know that the Greeks of Pythias' time coasted as far north as Britain and probably Scandinavia and had most likely made the acquaintance still earlier of the Fortunate Islands (two or more of the Canary group), similarly following downward the African shore. Long afterward the Roman Pliny knew Madeira and her consorts as the Purple Islands; Sertorius contemplated a possible refuge in them or other Atlantic island neighbors; and Plutarch wrote confidently of an island far west of

[6] Historical Library, Vol. 1, Bk. 5, Ch. 2, p. 309.

Britain and a great continent beyond the sea where Saturn slept. Other almost prophetic utterances of the kind have been culled from classical authors, but they have mostly the air of speculation. It cannot be said that the Greeks or Romans devoted much energy to the remoter reaches of the ocean.

Irish Sea-Roving

Ireland was never subject to Rome, though influenced by Roman trade and culture. From prehistoric times the Irish had done some sea roving, as their Imrama, or sea sagas, attest; and this roving was greatly stimulated in the first few centuries of conversion to Christianity by an abounding access of religious zeal. Irish monks seem to have settled in Iceland before the end of the eighth century and even to have sailed well beyond it. There are good reasons for believing that they had visited most of the islands of the eastern Atlantic archipelagoes. We cannot suppose that this rather reckless persistency ended there in such a period of expansion. It is quite possible that we owe to this trait the Island of Brazil, in the latitude of southern Ireland, as an American souvenir on so many medieval maps (Ch. IV). It is certain that the "Navigatio" of St. Brendan scattered St. Brandan Islands, real or fanciful, over the ocean wastes of a credulous cartography (Ch. III).

The Norsemen

A little later Scandinavians followed along the northern route, finding convenient stopping points in the Faroes and Iceland, discovered Greenland, and planted two settlements on its southwestern shore in the last quarter of the tenth century (Ch. VII). Some of their ruins, a less number of inscriptions, and many fragmentary relics and residua are found, so that we can form a good idea of their manner of life. Such as it was, it endured more than four hundred years. To contemporary and slightly later geography Greenland appeared most often as a far-flung promontory of Europe, jutting down on the western side of the great water;

but sometimes it was thought of as an oceanic island, with greater or less shifting of location, and seems to be responsible for divers mythical Green Islands of various maps and languages.

Less than a quarter of a century after their first landing the Norse Greenlanders became aware of a more temperate coast line to the southwest, the better part of which they called Vinland, or Wineland, but all of which we now name America. Perhaps Leif Ericsson brought the first report of it as the result of an accidental landfall close to the year 1000 A. D. Not long afterward, Thorfinn Karlsefni with three ships and 160 people attempted to colonize a part of the region. The venture failed, owing chiefly to the hostility of the Indians at the most favorable point. The visitors, however, made the acquaintance of the typical American Atlantic shore line of beach and sand dune which stretches from Cape Cod to the tip of Florida with one or two slight interruptions and one or two fragmentary minor northward extensions. The Norsemen or some predecessor had observed and named the three great zones of territory which must always have existed. Among investigators there has been general concurrence as to their discovery of Labrador and Newfoundland, to which most would add Cape Breton Island and more or less of the coast beyond. It has appeared to me that they made their chief abode in the New World on the shore of Passamaquoddy Bay behind Grand Manan Island and Grand Manan Channel, with the racing ocean streams of the mouth of the Bay of Fundy; and that they found this site inclement in winter and tried to remove to a land-locked bay of southern New England but were baffled and withdrew. My reasons have been pretty fully set forth in "Early Norse Visits to North America."[7] For the present it is enough to say that the discovered regions seem sometimes to have been thought of as a continuous coast line, sometimes as separate islands more or less at sea. But they did not get upon the maps in any shape until several centuries later.

[7] *Smithsonian Miscellaneous Collections*, Vol. 59, No. 19, Washington, D. C., 1913. See also: Recent History and Present Status of the Vinland Problem, *Geogr. Rev.*, Vol. 11, 1921, pp. 265–282.

Moorish Voyages

The Moors who conquered Spain took up the task of Atlantic exploration from that coast after a time. Its islands appear in divers of the Arabic maps. In particular we know through Edrisi,[8] the most celebrated name of Arabic geography, of the extraordinary voyage of the Moorish Magrurin of Lisbon, who set out at some undefined time before the middle of the twelfth century to cross the Sea of Darkness and Mystery. They touched upon the Isle of Sheep and other islands which were or were to become notable in sea mythology. Perhaps these islands were real, but they are not capable of certain identification now. These Moorish adventurers seem to have reached the Sargasso Sea and to have changed their course in order to avoid its impediments, attaining finally what may have been one of the Canary Islands, where they suffered a short imprisonment and whence, after release, they followed the coast of Africa homeward. Edrisi about 1154 wrought a world map in silver (long lost) for King Robert of Sicily and also wrote a famous geography illustrated by a world map and separate sectional or climatic maps. He devotes some space to Atlantic islands and their legends, shows a few of them, and believes in twenty-seven thousand; but the very few copies of his work which remain were made at different periods and in different nations, and their maps disagree surprisingly; so that it is not practicable to restore with certainty what he originally depicted. He seems to have had at least some acquaintance with the authentic island groups from the Cape Verde Islands to the Azores and Britain. The fantastic legends he appends to some of them do not seem to have greatly affected the prevailing European lore of that kind.

[8] Edrisi's "Geography," in two versions, the first based on two, the second on four manuscripts, viz.: (1) P. A. Jaubert (translator): Géographie d'Edrisi, traduite de l'Arabe en Français, 2 vols. (Recueil de Voyages et de Mémoires publié par la Société de Géographie, Vols. 5 and 6), Paris, 1836 and 1840; reference in Vol. 2, p. 27; (2) R. Dozy and M. J. De Goeje (translators): Description de l'Afrique et de l'Espagne par Edrisi: Texte arabe publié pour la première fois d'après les man. de Paris et d'Oxford, Leiden, 1866.

Italian Exploration

The Italians of the thirteenth century undertook similar explorations and temporarily occupied at least one of the Canary Islands, Lanzarote, which still bears, corrupted, the name of its Genoese invader, Lancelota Maloessel, of about 1470. On early fourteenth-century maps and some later ones the cross of Genoa is conspicuously marked on this island in commemoration of the exploit. It was probably at this period that Italian names were applied to most of the Azores and to other islands of the eastern groups. A few of these names still persist, for example, Porto Santo and Corvo; but others, after the rediscovery, gave way to Portuguese equivalents or substitutes. Thus Legname was translated into Madeira, and Li Conigi (Rabbit Island) became more prettily Flores (Island of Flowers). About 1285 the Genoese also sent out an expedition[9] "to seek the east by way of the west" under the brothers Vivaldi, who promptly vanished with all their men. Long afterward another expedition picked up on the African coast one who claimed to be a survivor; and it is probable that the Genoese expedition attempted to sail around Africa but came upon disaster before it was far on its way. The thirteenth- and fourteenth-century Italians undoubtedly added many islands to the maps or secured their places there; but we have no evidence that they passed westward beyond the middle of the Atlantic.

Bretons and Basques

The Bretons shared in the Irish monk voyages, their Saint Malo appearing in tradition sometimes as a companion of Saint Brendan, sometimes as an imitator or competitor. Also their fishermen, with the Basques, from an early time had pushed out into remote regions of the sea. The Pizigani map of 1367[10] (Fig. 2) represents a Breton voyage of adventure and disaster near one of

[9] M. d'Avezac: Notice des découvertes faites au Moyen Age dans l'Océan Atlantique antérieurement aux grandes explorations portugaises du quinzième siècle, Paris, 1845, p. 23.

[10] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . . , Paris, [1842–62], Pl. X, 1.

les îles fantastiques, appearing for the first time thereon. Their presence on the American shore in the years shortly following Cabot's discovery is commemorated by Cape Breton Island.

The Zeno Story

It has been alleged that two Venetian brothers, Antonio and Nicolò Zeno, in the service of an earl of the northern islands, took part with him about 1400 A. D. in certain explorations westward, he being incited thereto by the report of a fisherman, who claimed to have spent many years as a castaway and captive in regions southwest of Greenland. The Zeno narrative, dealt with later (Ch. IX), was accompanied by a map (Fig. 19), which exercised a great influence during a long period on all maps that succeeded it, adding several islands never before heard of. Both map and narrative are recognized as spurious or at best so corrupted by misunderstandings and transformed by rough treatment and a post-Columbian attempt at reconstruction as to be wholly unreliable. It is, indeed, possible that a fisherman of the Faroes made an involuntary sojourn in Newfoundland and elsewhere in America from about 1375 or 1380 onward and that his story induced the ruler of certain northern islands to sail westward and investigate. But both features are very dubious, and at any rate nothing was accomplished except the confusion of geography.

Portuguese Discovery

This brings us down to the rise of Portuguese nautical endeavor, which seems to have begun earlier than has generally been supposed but became most conspicuous under the direction of Prince Henry the Navigator. Its achievements included the rediscovery of Madeira and the Azores, which in many quarters had been forgotten, the exploration of the African coast, the accidental discovery or rediscovery of South American Brazil by Cabral, and the voyage of Vasco da Gama to India around the Cape of Good Hope. Perhaps we might insert in the list the discovery of Antillia. At any rate, it got on the map with a

Portuguese name in the first half of the fifteenth century, and several other islands accompanied it. They all certainly seem to be American and West Indian.

Columbus, Vespucius, and Cabot

Incidentally the Portuguese activity stimulated the enthusiasm of Columbus, guided his plans, and contributed to the eminent success of his great undertaking. In Antillia it provided a first goal, which he believed to be nearer than it really was. He fully meant to attain it and probably really did so, but without recognizing Antillia in Cuba or Hispaniola, for he thought he had missed it on the way and left it far behind. Vignaud insists that Columbus did not aim at Asia until after he actually reached the West Indies but sought to attain Antillia only.[11] However this may be, there is no doubt that he found in the island a notable prompting to his supreme adventure.

The discoveries of Columbus, Vespucius, and Cabot, with their immediate followers, heralded the opening of an effective knowledge of the western world and the ocean world to the centers of civilization. Thereafter the delineation of new islands did not cease but for a long time rather multiplied; yet they had little significance or importance, being chiefly the products of fancy, optical illusion, or error in reckoning. One of the latest worth considering is the island of Buss (Ch. XII), reported where there is no land by a separated vessel of Frobisher's expedition near the end of the sixteenth century. Afterward it was known as the Sunken Land of Bus, or Buss, to the grave concern of mariners.

We are reasonably secure against such imposition now, though perhaps it is not yet impossible. The old mythical or apocryphal islands, too, are gone from standard maps and most others, though you may yet find in cartographic work of little authority one or two of the more tenacious specimens making a final stand.

[11] Henry Vignaud: The Columbian Tradition on the Discovery of America and of the Part Played Therein by the Astronomer Toscanelli, Oxford, 1920.

CHAPTER II

ATLANTIS

About 2,300 years ago Plato wrote of a great and populous island empire in the outer (Atlantic) ocean, which had warred against Athens more than 9,000 years before his time and been suddenly engulfed by a natural cataclysm. According to his statement of the case this prodigious phenomenon, with all the splendor of national achievement that shortly preceded it, had been quite forgotten by the Athenians; but the tradition was recorded in the sacred books of the priests of Sais at the head of the Nile delta and was related by these Egyptians to Solon of Athens when he visited them apparently somewhere near 550 B. C. Solon embodied it, or began to embody it, in a poem (all trace of which is lost) and also related it to Dropides, his friend. It is probably to be understood that he further communicated it to this friend in some written form, for we find Critias in a dialogue with Socrates represented by Plato as declaring: "My great-grandfather, Dropides, had the original writing, which is still in my possession."[1] If so, it has vanished.

Elements of Fact and Fancy in Plato's Tale of Atlantis

It is evident that the Atlantis tale must be treated either as mainly historical, with presumably some distortions and exaggerations, or as fiction necessarily based in some measure (like all else of its kind) on living or antiquated facts. Certainly no one will go the length of accepting it as wholly true as it stands. But, even eliminating all reference to the god Poseidon and his plentiful demigod progeny, we are left with divers essential features

[1] Benjamin Jowett: The Dialogues of Plato, Translated into English with Analyses and Introductions, 3rd edit., 5 vols., London and New York, 1892; reference in Vol. 3, p. 534.

which credulity can hardly swallow. Atlantis is too obviously an earlier and equally colossal Persia, western instead of eastern, overrunning the Mediterranean until checked by the intrepid stand of the great Athenian republic. The supreme authentic glory of Athens was the overthrow of Xerxes and his generals. Had this been otherwise we must believe that we should not have heard of the baffled invasion by Atlantis. Again, we are asked to accept Athens, contrary to all other information, as a dominant military state more than 9,500 years before Christ, when presumably its people, if existent, were exceedingly primitive and unformidable. Moreover, the sudden submergence of so vast a region as the imagined Atlantis would be an event without parallel in human annals, besides being pretty certain to leave marks on the rest of the world which could be recognized even now.

The hypothesis of fiction seems reasonably well established. We must remember that Plato did not habitually confine himself to bare facts. His favorite method of exposition was by reporting alleged dialogues between Socrates and various persons—dialogues which no one could have remembered accurately in their entirety. It is recognized that in arrangement, characters, and utterance he has contrived to convey his own theories and conceptions as well as those of his revered teacher and leader, so that it is often impossible to say whether we should credit certain views or statements mainly to Plato or to Socrates. Possessed by his meditations, he would even present as an instructive example and incitement a fancied picture of an elaborate system of social and political organization, chiefly the product of his own brain. He did this in the "Republic" and apparently had planned a larger partly parallel work of the kind in the triology of which the "Timaeus" and the fragmentary "Critias" are the first part and the unfinished second. A writer (Lewis Campbell) in the Encyclopaedia Britannica, article "Plato," states the case very clearly.

> What should have followed this [the *Timaeus*], but is only commenced in the fragment of the *Critias*, would have been the story, not of a fall,

but of the triumph of reason in humanity. . . Not only the *Timaeus*, but the unfinished whole of which it forms the introduction, is professedly an imaginative creation. For the legend of prehistoric Athens and of Atlantis, whereof Critias was to relate what belonged to internal policy and Hermocrates the conduct of the war, would have been no other than a prose poem, a "mythological lie," composed in the spirit of the *Republic*, and in the form of a fictitious narrative.[2]

Jowett takes substantially the same view in his introduction to the "Critias," indicating surprise at the innocent, literal, matter-of-fact way in which the former existence and destruction of great Atlantis have generally been accepted as sober declarations of fact and accounted for in divers fashions accordingly. Nor is this estimate of the Atlantis tale as primarily a romance of enlightenment and uplifting a merely modern theory. Plutarch, in a passage quoted by Schuller, lays more stress on Plato's tendency to adorn the subject, treating Atlantis as a delightful spot in some fair field unoccupied, than on ennobling imagination, and avers the described magnificence to be "such as no other story, fable, or poem ever had."[3] But this, whether wholly adequate or no, surely emphasizes the recognition of romance. Plutarch adds a word of regret that Plato began the "delightful" story late in life and died before the work was completed. The precise motive of the fiction is only of minor importance to our present inquiry. It seems hardly possible that the development of the composition in the remaining two parts of the trilogy could have given it a more authentic historical cast. As the matter stands Atlantis is rather succinctly reported in the "Timaeus," more fully and with mythological and architectural adornments in the later "Critias" till it breaks off in the middle of a sentence; but the two accounts are consistent. It seems a clear case of evolution suddenly arrested but allowing us fairly to infer the character of the whole from the parts that remain.

If there were any corroboration of the tale, it would count on the historical side; but it seems to be agreed that Greek literature

[2] Encyclopaedia Britannica, 11th edit., Vol. 21, p. 823.

[3] Atlantis, the "Lost" Continent: A Review of Termier's Evidence, *Geogr. Rev.*, Vol. 3, 1917, pp. 61–66; reference on p. 62

and art before Plato do not supply this in any unequivocal and reliable form. Certain hints or contributory items will be dealt with below, but they do not affect the character of the story as a whole nor tend to establish the reality of its main features.

We do not need to ascribe to Plato all the fancy and invention in the story. The romancing may have been done in part by the priests of Sais or by Solon or by Dropides or by Critias; or possibly all these may have contributed successive strata of fancy, crowned by Plato. Practically we have to treat the tale as beginning with him. Its circumstantiality and air of realism have sometimes been taken as credentials of accuracy; but they are not beyond the ordinary skill of a man of letters, and Plato was much more than equal to the task.

Significant Passages from the Tale

The Atlantis narrative has been so often translated and copied, at least as to its more significant parts, that one hesitates to quote again; but there are certain items to which attention should be drawn, and brief extracts are the best means of effecting this. The following passages are from the Smithsonian translation of Termier's remarkable paper on Atlantis reproduced by that institution. It differs verbally from the translation by Dr. Jowett but not in the broader features. Of the two quotations the first is from the "Critias." It is briefer than the other, though forming part of a more elaborate and extended account of the island. Taking his appointed part in the dialogue, Critias says:

> According to the Egyptian tradition a common war arose 9,000 years ago between the nations on this side of the Pillars of Hercules and the nations coming from beyond. On one side it was Athens; on the other the Kings of Atlantis. We have already said that this island was larger than Asia and Africa, but that it became submerged following an earthquake and that its place is no longer met with except as a sand bar which stops navigators and renders the sea impassable.[4]

[4] Pierre Termier: Atlantis (transl. from *Bull. l'Inst. Océanogr. No. 256*, Monaco), *Ann. Rept. Smithsonian Instn. for 1915*, Washington, D. C., pp. 219–234; reference on p. 222.

Termier quotes also from the "Timaeus" dialogue (Critias is repeating the statement of the Egyptian priests):

> The records inform us of the destruction by Athens of a singularly powerful army, an army which came from the Atlantic Ocean and which had the effrontery to invade Europe and Asia; for this sea was then navigable, and beyond the strait which you call the Pillars of Hercules there was an island larger than Libya and even Asia. From this island one could easily pass to other islands, and from them to the entire continent which surrounds the interior sea . . . In the Island Atlantis reigned kings of amazing power. They had under their dominion the entire island, as well as several other islands and some parts of the continent. Besides, on the hither side of the strait, they were still reigning over Libya as far as Egypt and over Europe as far as the Tyrrhenian. All this power was once upon a time united in order by a single blow to subjugate our country, your own, and all the peoples living on the hither side of the strait. It was then that the strength and courage of Athens blazed forth. By the valor of her soldiers and their superiority in the military art, Athens was supreme among the Hellenes; but, the latter having been forced to abandon her, alone she braved the frightful danger, stopped the invasion, piled victory upon victory, preserved from slavery nations still free, and restored to complete independence all those who, like ourselves, live on this side of the Pillars of Hercules. Later, with great earthquakes and inundations, in a single day and one fatal night, all who had been warriors against you were swallowed up. The Island of Atlantis disappeared beneath the sea. Since that time the sea in these quarters has become unnavigable; vessels can not pass there because of the sands which extend over the site of the buried isle.[5]

We have said that all fiction has some root in reality. Even a myth is commonly an attempted explanation of some mysterious natural phenomenon or distorted narrative of obscure, nearly forgotten happenings. Intentional fiction, try as it may, cannot keep quite clear of facts. We turn, then, to those salient features of the above excerpts which may in a measure stand for real past events or puzzling conditions supposed to continue. Beside the prehistoric grandeur and triumph of Athens, already dealt with, these are to be noted: the Atlantean invasion of the Mediterranean; the vastness of the outer island which sent forth these

[5] *Ibid.*, pp. 220–221.

armies; its submergence; and the alleged continued obstruction to navigation in that quarter.

Atlantean Invasion of the Mediterranean

There seem to have been some rumors afloat of very early hostilities between dwellers on the shores of the Mediterranean and those beyond the Pillars of Hercules. That geographical name bears witness to the supposed exertion of Greek dominant power at the very gateway of the Atlantic, and the legend connecting this demigod with Cadiz carries his activities a little farther out on the veritable ocean front. The rationalizing Diodorus, writing in the first century before Christ but dealing freely with traditions from a very much earlier time, presents Hercules as a great military commander, who, having set up his memorial pillars, proceeded to overrun and conquer Iberia (the present Spain and Portugal), passing thence to Liguria and thence to Italy after the manner of Hannibal, much nearer to Diodorus and even better known.[6] It is evident that the earlier part of this campaign must include warfare beyond the Pillars on at least the Lusitanian Atlantic front. Furthermore, we are introduced to the western Amazons, who had their center of power on the Island Hesperia between Mount Atlas and the ocean and invaded both the inland mountaineers and their seaboard neighbors, the Gorgons—also feminine, if no great beauties.[7] The poor Gorgons were subjugated but long afterward developed power again under Queen Medusa, only to be disastrously overcome by the great Greek general, Perseus. Both the Gorgons and the western Amazons seem to have had their abodes on the shores of the Atlantic Ocean south of the Strait of Gibraltar, along the front of what we now call Morocco and the region south of it. We cannot say how much of these tales belongs to Diodorus; but he certainly did not invent the whole of them and is not likely to have

[6] The Historical Library of Diodorus the Sicilian in 15 Books, to which are added the fragments of Diodorus, and those published by H. Valesius, I. Rhodomannus, and F. Ursinus, transl. by G. Booth, Esq., 2 vols., London, 1814; reference in Vol. 1, Bk. 4, Ch. 1, p. 234.

[7] *Ibid.*, Vol. 1, Bk. 3, Ch. 4, p. 195.

contrived their most distinctive features. The myth of Perseus, like that of Theseus and the Minotaur, meant something dimly and distantly historic. We think we partly understand the latter after the excavations in Crete. Similarly, the flights and feats of Perseus, as given in mythology, may be another way of saying that he made swift voyages far afield and descended on his enemies with deadly execution.

These tales as we have them from Diodorus do not represent the Atlantic coast dwellers as invading the Mediterranean; but some such incursions would naturally follow, by way of retaliation, the strenuous proceedings attributed to eastern-Mediterranean commanders, if, indeed, they did not precede and provoke them. We need not picture a host of Atlantides pouring through between the Pillars; but piratical descents of outer seafaring people were probable enough and might be on a rather large scale—subject, of course, to exaggeration by rumor. Nor would any of the threatened people be likely to distinguish closely between forces from a mainland coast and those from some outlying island. The enemy might well embody both elements.

Location and Size of Atlantis

The location of Atlantis, according to Plato, is fairly clear. It was in the ocean, "then navigable," beyond the Pillars of Hercules; also beyond certain other islands, which served it as stepping-stones to the continental mass surrounding the Mediterranean. This effectually disposes of all pretensions in behalf of Crete or any other island or region of the inner sea. Atlantis must also have lain pretty far out in the ocean, to allow space for the intervening islands, which may well have been, at least in part, the Canary Islands or other surviving members of the eastern Atlantic archipelagoes; still it could not have been too distant to prohibit the transfer of large forces when means of transportation were slow and scant. This rules out America, apart from the fact that America (like Crete) still exists, whereas Atlantis foundered, and the further fact that America is continental, while Atlantis is described as merely a large island. Besides, what evidence is there

that America could send forth armies or navies for the invasion of Europe? Neither the Incas nor the Aztecs nor the Mayas were capable of such aggressions, and we know of nothing greater in this part of the world before the very modern development of the white man's power.

As to the size of Atlantis, it is not quite clear whether we are to compare it with Mediterranean Africa and Asia Minor individually or collectively. Probably Plato merely meant to indicate a great area without any exact conception of its extent. If we think of an island as large as France and Spain we shall probably not miss the mark very widely. The site of the mid-Atlantic Sargasso Sea would be about the location indicated.

Improbability of the Existence of Such an Island

Now, was there any such great island and populous magnificent kingdom in mid-Atlantic or anywhere in the Atlantic Ocean about 11,400 years ago? If not absolutely impossible, it seems at least very unlikely. Through the mouth of Critias Plato tells how the people of Atlantis employed themselves in constructing their temples and palaces, harbors and docks, a great palace which they continued to ornament through many generations, canals and bridges, walls and towns, numerous statues of gold, fountains both cold and hot, baths, and a great multitude of houses.[8]

Such advance in civilization, such elaboration of organization, such splendor and power would certainly have overflowed abundantly on the islands intervening between Atlantis and the continental shore. It is not written that these all shared the same fate; and in point of fact the Azores, Madeira and her consorts, the Canary Islands, and the Cape Verde group are still in evidence. Some of them must have been within fairly easy reach of Atlantis if Atlantis existed. There is no indication that they have been newly created or have come up from below since that time. Even allowing for great exaggeration and assuming only a large and efficient population in a vast insular territory without

[8] Jowett, *op. cit.*, Vol. 3, pp. 536–539.

the ascribed superfluity of magnificence, such a people would surely have left some kind of lasting memorial or relic beyond their own borders. Nothing of the kind has ever been found either in these islands of the eastern Atlantic archipelagoes or elsewhere in that part of the earth.

The advocates of a real Atlantis try to pile up proofs of a great land mass existing at some time in the Atlantic Ocean, a logical proceeding so far as it goes but one that falls short of its mark, for the land may have ascended and descended again ages before the reputed Atlantis period. It is of no avail to demonstrate its presence in the Miocene, Pliocene, or Pleistocene epoch, or, indeed, at any time prior to the development of a well organized civilization among men, or, as Plato apparently reasons, between 11,000 and 12,000 years ago. Also what is wanted is evidence of the great island Atlantis, not of the former seaward extension of some existing continent nor of any land bridge spanning the ocean. It is true that such conditions might serve as distant preliminaries for the production of Atlantis Island by the breaking down and submergence of the intervening land; but this only multiplies the cataclysms to be demonstrated and can have no real relevance in the absence of proof of the island itself. The geologic and geographic phenomena of pre-human ages are beside the question. The tale to be investigated is of a flourishing insular growth of artificial human society on a large scale, not so very many thousands of years ago, evidently removed from all tradition of engulfment and hence dreading it not at all but sending forth its conquering armies until the final defeat and annihilating cataclysm.

Termier's Theory of an Ancient Atlantic Continental Mass

Nevertheless, inquiries as to an ancient Atlantic continental mass have an interest. We may cite a few of the recent outgivings. Termier tells us of an east-and-west arrangement of elevated lands across the Atlantic in earlier ages, as opposed to the

present north-and-south system of islands and raised folds. By the former there was

a very ancient continental bond between northern Europe and North America and . . . another continental bond, also very ancient, between the massive Africa and South America. . . Thus the region of the Atlantic, until an era of ruin which began we know not when, but the end of which was the Tertiary, was occupied by a continental mass, bounded on the south by a chain of mountains, and which was all submerged long before the collapse of those volcanic lands of which the Azores seem to be the last vestiges. In place of the South Atlantic Ocean there was, likewise, for many thousands of centuries a great continent now very deeply engulfed beneath the sea.[9]

Later he refers to

collapses . . . at the close of the Miocene, in the folded Mediterranean zone and in the two continental areas, continuing up to the final annihilation of the two continents . . . then, in the bottom of the immense maritime domain resulting from these subsidences, the appearance of a new design whose general direction is north and south. . . The extreme mobility of the Atlantic region . . . the certainty of the occurrence of immense depressions when islands and even continents have disappeared; the certainty that some of these depressions date as from yesterday, are of Quaternary age, and that consequently they might have been seen by man; the certainty that some of them have been sudden, or at least very rapid. See how much there is to encourage those who still hold out for Plato's narrative. Geologically speaking, the Platonian history of Atlantis is highly probable.[10]

Floral and Faunal Evidence of Connection with Europe and Africa

Professor Schuchert, reviewing the paper of Termier above quoted, agrees in part and partly disagrees. He says:

The Azores are true volcanic and oceanic islands, and it is almost certain that they never had land connections with the continents on either side of the Atlantic Ocean. If there is any truth in Plato's thrilling account, we must look for Atlantis off the western coast of Africa, and here we find that five of the Cape Verde Islands and three of the Canaries have rocks that are unmistakably like those common to the continents. Taking into consideration also the living plants and animals of these islands,

[9] Termier, pp. 228–229.
[10] *Ibid.*, pp. 230, 231.

many of which are of European-Mediterranean affinities of late Tertiary time, we see that the evidence appears to indicate clearly that the Cape Verde and Canary Islands are fragments of a greater Africa. . . . What evidence there may be to show that this fracturing and breaking down of western Africa took place as suddenly as related by Plato or that it occurred about 10,000 years ago is as yet unknown to geologists.[11]

Termier puts in evidence as biological corroboration the researches of Louis Germain, especially in the mollusca, which have convinced him of the continental origin of this fauna in the four archipelagoes, the Azores, Madeira, the Canaries, and Cape Verde. He also notes a few species still living in the Azores and the Canaries, though extinct in Europe, but found as fossils in Pliocene rocks of Portugal. He deduces from this a connection between the islands and the Iberian Peninsula down to some period during the Pliocene.[12]

Dr. Scharff has devoted some space and assiduous effort to similar considerations. He reviews the insular flora and fauna, pointing out that some of the forms common to the islands, or some of them, and a now distant continent could hardly have reached there over sea. He comes to the following conclusion: "I believe they [the islands] were still connected, in early Pleistocene times, with the continents of Europe and Africa, at a time when man had already made his appearance in western Europe, and was able to reach the islands by land."[13]

He also points out that the Azores Islands were first known and named for their hawks, which feed largely on small mammalia, that presumably would have come thither overland, and also points out that some of the islands were named in Italian on old maps Rabbit Island, Goat Island, etc., before the Portuguese rediscovery in the fifteenth century.[14] Those names (on several fifteenth-century maps St. Mary's is Louo, Lovo, or Luovo—"Wolf Island," cf. Portuguese *lobo*) are certainly interesting,

[11] *Geogr. Rev.*, Vol. 3, 1917, p. 65.

[12] Termier, pp. 231 and 232.

[13] R. F. Scharff: Some Remarks on the Atlantis Problem, *Proc. Royal Irish Acad.*, Vol. 24, Section B, 1903, pp. 268–302; reference on p. 297.

[14] *Idem:* European Animals: Their Geological History and Geographical Distribution, London and New York, 1907, pp. 102 and 104.

but they may have been given for some supposed resemblance of outline or other fancy. There is this in favor of Dr. Scharff's supposition: the name Corvo in its original form Corvis Marinis (Island of the Sea Crows) appears to have been prompted by the abundance of birds of a particular species—possibly cormorants, possibly black skimmers—and not by any typical bird form of the island itself. Also Pico, now named for its peak, was called the Isle of the Doves, and wild doves or pigeons are said to abound still on its mountain side. But, if we assume by analogy that Li Conigi (Rabbit Island) and Capraria (Goat Island) were so named by reason of the pre-Portuguese wild rabbits and goats, these may be the donations of earlier visitants or settlers—Italian, Carthaginians, or what not. We cannot well believe that wolves were voluntarily brought by man to Lovo (Lobo), now St. Mary's; but here there may have been some mistake, as of dogs run wild or some play of imitative fancy, as before indicated. In any case these archaic island names are a long way from being convincing evidence of former land connection with any continent, still less of the former existence of Atlantis.

More recently Navarro, in an argument mainly geological, has also called attention to the continental character of some species of the fauna and flora of the eastern Atlantic islands, with the same implications as his predecessors.[15] But there seems to be little real addition to the evidence of this nature; and no one has made it more apposite to the existence of Atlantis Island 12,000 or so years ago.

Evidence of Submergence

The great final catastrophe of Atlantis would surely write its record on the rocks both of the sea bed and the continental land masses. As to the ocean bottom it would be the natural repository for vitreous and other rocky products of volcanic and seismic action occurring above it. Termier relates what he considers very significant indications at a point 500 miles north of the Azores at

[15] L. F. Navarro: Nuevas consideraciones sobre el problema de la Atlantis, Madrid, 1917, pp. 6 and 15 (extract from *Rev. Real Acad. de Ciencias Exactas, Fisicas y Naturales de Madrid*, Vol. 15, 1917, pp. 537–552).

a depth of 1,700 fathoms, where the grappling irons of a cable-mending ship dragged for several days over a mountainous surface of peaks and pinnacles, bringing up "little mineral splinters" evidently "detached from a bare rock, an actual outcropping sharp-edged and angular." These fragments were all of a non-crystalline vitreous lava called tachylyte, which "could solidify into this condition only under atmospheric pressure." He infers that the territory in question was covered with lava flows while it was still above water and subsequently descended to its present depth; also from the general condition of the rock surface that the caving in followed very closely on the emission of the lavas and that this collapse was sudden. He thinks, therefore, "that the entire region north of the Azores and perhaps the very region of the Azores, of which they may be only the visible ruins, was very recently submerged, probably during the epoch which the geologists call the present." He believes also that like results would follow a "detailed dredging to the south and the southwest of these islands."[16]

It will be observed that the whole of this very tempting edifice is built on the declared impossibility of tachylyte forming on the sea bottom under heavy water pressure. But Professor Schuchert insists that: "It is not pressure so much as it is a quick loss of temperature that brings about the vitreous structure in lava. In other words, vitreous lava apparently can be formed as well in the ocean depths as on the lands. What the cable layers got was probably the superficial glassy crust of probable subterranean lava flows."[17] If that be so, there is, of course, no need to infer a descent of territory into the depths in that region of the mid-Atlantic. This tachylyte matter seems enveloped in uncertainty.

On the other hand, it is well known that volcanic outbursts and earthquakes have been rather frequent and alarming even in modern times among the islands of the eastern Atlantic archipelagoes, especially the Canaries and the lowest and middle

[16] Termier, pp. 226 and 227.
[17] *Geogr. Rev.*, Vol. 3, 1917, p. 66.

groups of the Azores. In some instances the nearest mainland also has suffered, as notably on "Lisbon-earthquake day," and the various occasions of disturbances cited by Navarro. Also, there is the memorable instance of a small island that was thrust upward from the depths before the eyes of a British naval ship's crew and remained in sight for several days. Changes of a distinctly non-volcanic character have also occurred, as when an appreciable slice of cliff wall broke away from Flores and sank, raising a great wave which did damage, with loss of life on Corvo, some nine miles away. Moreover, Corvo was once considerably larger than it is now in comparison with this neighbor, Flores (or Li Conigi), if we may trust to the general testimony of fourteenth-century and fifteenth-century maps. But all these shiftings and transformations for a long time past have been local and usually rather narrowly restricted. It does not follow that no depressions or elevations of greater extent have suddenly occurred in times before men regularly made permanent records; yet it must be owned that the belief in any very large sunken Atlantis derives no direct support from what we actually know of volcanic and seismic action in that region in historic centuries.

Relation of the Submarine Banks of the North Atlantic to the Problem

There remain to be considered a small array of undersurface insular items which seem germane to our inquiry. Sir John Murray tells us that:

> Another remarkable feature of the North Atlantic is the series of submerged cones or oceanic shoals made known off the northwest coast of Africa between the Canary Islands and the Spanish peninsula, of which we may mention: the "Coral Patch" in lat. 34° 57′ N., long. 11° 57′ W., covered by 302 fathoms; the "Dacia Bank" in lat. 31° 9′ N., long. 13° 34′ W., covered by 47 fathoms; the "Seine Bank" in lat. 33° 47′ N., long. 14° 1′ W., covered by 81 fathoms; the "Concepcion Bank" in lat. 30° N. and long. 13° W., covered by 88 fathoms; the "Josephine Bank" in lat. 37° N., long. 14° W., covered by 82 fathoms; the "Gettysburg Bank" in lat. 36° N., long. 12 W., covered by 34 fathoms.[18]

[18] Sir John Murray: The Ocean: A General Account of the Science of the Sea (Home University Library of Modern Knowledge, No. 76), New York, 1913, p. 33.

All of these subaqueous mountain-top lands or hidden elevated plateaus are conspicuously nearer the ocean surface than the real depths of the sea—so much nearer that they inevitably raise the suspicion of having been above that surface within the knowledge and memory of man. It is notorious that coasts rise and fall all over the world in what may be called the normal non-spasmodic action of the strata, and sometimes the movement in one direction—upward or downward—seems to have persisted through many centuries. If we assume that Gettysburg Bank has been continuously descending at the not extravagant rate of two feet in a century, then it was a considerable island above water about the period dealt with by the priests of Sais. Apparently the rising of Labrador and Newfoundland since the last recession and dispersion of the great ice sheet has been even more. Here the elements of exact comparison in time and conditions are lacking; nevertheless, the reported uplift of more than 500 feet in one quarter and nearly 700 in another is impressive as showing what the old earth may do in steady endeavor. It must be borne in mind, too, that a sudden acceleration of the descent of Gettysburg Bank and its consorts may well have occurred at any stage in so feverishly seismic an area. All considered, it seems far from impossible that some of these banks may have been visible and even habitable at some time when men had attained a moderate degree of civilization. But they would not be of any vast extent.

Facts and Legends As to Submergences in Historic Times

Westropp has made an interesting and important disclosure of the legends of submerged lands with villages, churches, etc., all around the coasts of Ireland. In some instances they are believed to be magically visible again above the surface in certain conditions; in others the spires and walls of a fine city may at times, it is thought, be still seen through clear water. Nearly, if not quite, every one of them coincides with a shoal or bank of no great depth, the upjutting teeth of rocks, or a barren fragmentary islet —vestiges perhaps of something more conspicuous, extended, and alluring. Westropp says: "When we examine the sea bed, we see

that it is not impossible (save Brasil and the land between Teelin and the Stags of Broadhaven) that islands may have existed within traditional memory at all the alleged sites."[19] In some cases considerable inroads of the ocean are perfectly well known to have occurred within relatively recent historic centuries. The same on a large scale is certainly true of Holland—witness Haarlem Lake and the Zuyder Zee. Other countries, perhaps most countries, might be called as witnesses.

In these considerations of known facts and legends still repeated we are dealing mostly with events of periods not excessively remote, but the same laws must have been at work and the same phenomena occurring in earlier millenniums.

If there were men to observe, the legend would follow the subsidence; and Phoenician or other voyagers would naturally bear it back to the Eastern Mediterranean, to Plato or the sources from which Plato derived it.

In any such case the submergence would most likely be exaggerated and made a great catastrophe, but there were special reasons why the exaggeration should be enormous in this particular story. It is the office of a myth or legend to explain. We see that in Plato's time the Atlantic Ocean was believed, in part at least, to be no longer navigable, and with some modifications this idea persisted far down into the Middle Ages, involving at least a conviction of abnormal obstacles hardly to be overcome. The account of Critias is: "Since that time the sea in those quarters has become unnavigable; vessels cannot pass there because of the sands which extend over the site of the buried isle." This item differs from the other features of the narration put into his mouth by Plato, in that it related to a present and continuing condition and in a way challenged investigation—which would have to be at a distant and ill-known region but was not really impracticable. It must be evident that Plato would not have written thus unless he relied on the established general repute of that part of the ocean for difficulty of navigation.

[19] T. J. Westropp: Brasil and the Legendary Islands of the North Atlantic: Their History and Fable, *Proc. Royal Irish Acad.*, Vol. 30, Section C, 1912–13, pp. 223–260; reference on p. 249.

Reports of Obstruction to Navigation in Early Times

We get further light on this matter of obstruction from the Periplus of Scylax of Caryanda, the greater part of which must have been written before the time of Alexander the Great. Probably we may put down the passage as approximately of Plato's own period. He begins on the European coast at the Strait of Gibraltar, makes the circuit of the Mediterranean, and ends at Cerne, an island of the African Atlantic coast, "which island, it is stated, is twelve days' coasting beyond the Pillars of Hercules, where the parts are no longer navigable because of shoals, of mud, and of seaweed."[20] "The seaweed has the width of a palm and is sharp towards the points, so as to prick."[21]

Similarly, when Himilco, parting from Hanno, sailed northward on the Atlantic about 500 B. C., he found weeds, shallows, calms, and dangers, according to the poet Avienus, who professes to repeat his account long afterward and is quoted by Nansen, with doubts inclining to acceptance. It reads:

> No breeze drives the ship forward, so dead is the sluggish wind of this idle sea. He [Himilco] also adds that there is much seaweed among the waves, and that it often holds the ship back like bushes. Nevertheless, he says that the sea has no great depth, and that the surface of the earth is barely covered by a little water. The monsters of the sea move continually hither and thither, and the wild beasts swim among the sluggish and slowly creeping ships.[22]

Avienus also has the following:

> Farther to the west from these Pillars there is boundless sea. Himilco relates that . . . none has sailed ships over these waters, because propelling winds are lacking . . . likewise because darkness screens the light of day with a sort of clothing, and because a fog always conceals the sea.[23]

[20] E. L. Stevenson: Portolan Charts, *Publs. Hispanic Soc. of Amer. No. 82*, New York, 1911, pp. 5–6.

[21] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, p. 8.

[22] Fridtjof Nansen: In Northern Mists: Arctic Exploration in Early Times, transl. by A. G. Chater, 2 vols., New York, 1911; reference in Vol. 1, p. 38.

[23] *Ibid.*, pp. 40–41.

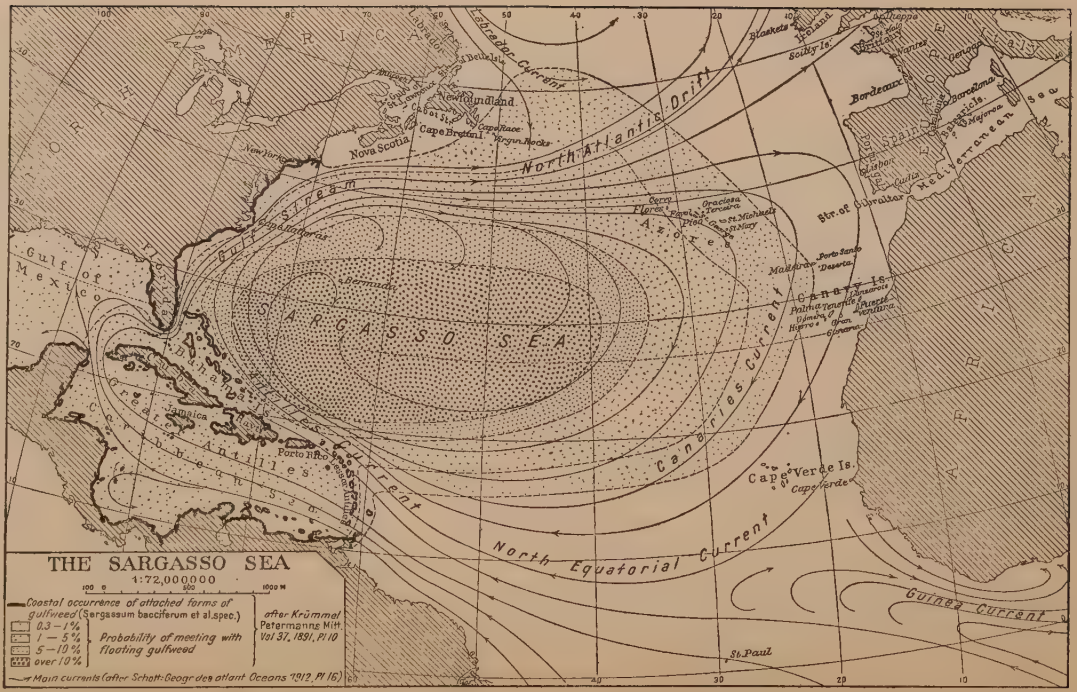

FIG. 1—Map of the Sargasso Sea showing its relation to the Azores, to illustrate its possible bearing on the medieval belief in the existence of lands or islands beyond. Scale 1:72,000,000. (The map is also intended to help in locating the various existing islands of the North Atlantic.)

Aristotle, as cited by Nansen, tells us in his "Meteorologica" that the sea beyond the Pillars of Hercules was muddy and shallow and little stirred by the winds.[24] In early life Aristotle was a pupil of Plato, and, though he afterward developed a widely different method and outlook, it is likely that their information as to this matter was in common, being supplied perhaps by Phoenician and other seamen.

In the passage quoted from Scylax and the first excerpt from Avienus the courses referred to are apparently too near the mainland shore to approach that prodigious accumulation of eddy-borne weeds in dead water which has long given to a great space of mid-Atlantic the name of the Sargasso Sea. But they show that huge seaweeds were very early associated with obstruction to navigation in seafaring minds and popular fancy. Perhaps they may also have suggested shallows as affording beds of nourishment for so enormous an output of vegetation. It would not readily occur to the early seagoing observers that the greatest of these entangling creations floated in masses quite free, though we now know this to be the case. In any event, it is evident that some imperfect knowledge of conditions far west of the Pillars of Hercules had made its way to Greece. Somewhere in that ocean of obscurity and mystery there was a vast dead and stagnant sea, presumably shallow, a sea to be shunned. Gigantic entrapping weeds and wallowing sea monsters freely distributed were recognized, too, as among the standing terrors of the Atlantic.

The Sargasso Sea As the Ancient Atlantis

It would be idle and wearying to follow such utterances through the rather numerous centuries that have elapsed since those early times. When the Magrurin or deluded explorers of Lisbon, at some undefined time between the early eighth century and the middle of the twelfth attempted, according to Edrisi, to cross the great westward Sea of Darkness they encountered an impassable tract of ocean and had to change their course, apparently reach-

[24] Nansen, In Northern Mists, p. 41.

ing one of the Canary Islands. Later the map of the Pizigani brothers of 1367[25] (Fig. 2) contains in words and a saintly figure of warning a solemn protest against attempting to sail the unnavigable ocean tract beyond the Azores. As will be seen by a modern map (Fig. 1), this area includes the vast realm of the Sargasso—a waste of weed, shifting its borders with the seasons but constant in its characteristics in some parts and always to be found by little seeking—one of the permanent conspicuous features of earth's surface.[26] It is described by a writer in the Encyclopaedia Britannica as nearly equal to Europe in area, a statement hardly warranted unless by including all outlying tatters and fringes of Gulf weed floating free.[27]

It is one of the topics that tempt and have always tempted exaggeration and misunderstandings. The effect on a bright mind of current nautical yarns concerning it is shown by Janvier's "In the Sargasso Sea," a narrative almost as extravagant as Plato's tale of Atlantis, in its own quite different way. One of the more moderate preliminary passages may be cited:

> And to that same place, he added, the stream carried all that was caught in its current—like the spar and plank floating near us, so that the sea was covered with a thick tangle of the weed in which were held fast fragments of wreckage and stuff washed overboard and logs adrift from far southern shores, until in its central part *the mass was so dense that no ship could sail through it nor could a steamer traverse it because of the fouling of her screws*.[28]

[25] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . . , Paris, [1842–62], Pl. X, 1.

[26] J. C. Soley: Circulation of the North Atlantic in February and in August [sheet of text with charts on the reverse]. Supplement to the Pilot Chart of the North Atlantic Ocean for 1912, Hydrographic Office, Washington, D. C.

Otto Krümmel: Die nordatlantische Sargassosee, *Petermanns Mitt.*, Vol. 37, 1891, pp. 129–141, with map.

Gerhard Schott: Geographie des Atlantischen Ozeans, Hamburg, 1912, pp. 162–164 and 268–269, Pls. 16 and 26.

[27] Krümmel (paper cited in footnote 26) suggests applying the name Sargasso Sea to the area limited by the curve of 5 per cent probability of occurrence on his map (our Fig. 1). This area amounts to 4,500,000 square kilometers, or somewhat less than half the area of Europe. Schott (see footnote 26), p. 140, gives 8,635,000 square kilometers as the area of his natural region Sargasso Sea, which is based not only on the occurrence of gulfweed but also on the prevailing absence of currents and on the relatively high temperature of the water in all depths.—EDIT. NOTE.

[28] T. A. Janvier: In the Sargasso Sea, New York, 1896, p. 26.

He admits this theory of formation was inaccurate but later refers to "the dense wreck-filled center of the Sargasso Sea" and makes his castaway hero declare:

> What I looked at was the host of wrecked ships, the dross of wave and tempest which through four centuries has been gathering slowly and still more slowly wasting in the central fastnesses of the Sargasso Sea.[29]

Sir John Murray naturally gives a more moderate and scientific account, explaining:

> The famous Gulf Weed characteristic of the Sargasso Sea in the North Atlantic belongs to the brown algae. It is named *Sargassum bacciferum*, and is easily recognized by its small berry-like bladders. . . . It is supposed that the older patches gradually lose their power of floating, and perish by sinking in deep water. . . . The floating masses of Gulf Weed are believed to be continually replenished by additional supplies torn from the coasts by waves and carried by currents until they accumulate in the great Atlantic whirl which surrounds the Sargasso Sea. They become covered with white patches of polyzoa and serpulae, and quite a large number of other animals (small fishes, crabs, prawns, molluscs, etc.) live on these masses of weed in the Sargasso Sea, all exhibiting remarkable adaptive coloring, although none of them belong properly to the open ocean.[30]

Finally we have from the Hydrographic Office the official naval and scientific statement of the case. In the little treatise already referred to, Lieutenant Soley tells us that the southeast branch of the Gulf Stream "runs in the direction of the Azores, where it is deflected by the cold upwelling stream from the north and runs into the center of the Atlantic Basin, where it is lost in the dead water of the Sargasso Sea."[31] As to just what this is the office answers:

> Through the dynamical forces arising from the earth's rotation which cause moving masses in the northern hemisphere to be deflected toward the right-hand side of their path, the algae that are borne by the Gulf Stream from the tropical seas find their way toward the inner edge of the circulatory drift which moves in a clockwise direction around the central part of the North Atlantic Ocean. In this central part the flow of the

[29] *Ibid.*, p. 27.
[30] Murray, pp. 140–141.
[31] Soley, column 2, lines 3–5.

surface waters is not steady in any direction, and hence the floating seaweed tends to accumulate there. This accumulation is perhaps most observable in the triangular region marked out by the Azores, the Canaries and the Cape Verde Islands, but much seaweed is also found to the westward of the middle part of this region in an elongated area extending to the 70th meridian.

The abundance of seaweed in the Sargasso Sea fluctuates much with the variation of the agencies which account for its presence, but this Office does not possess any authentic records to show that it has ever materially impeded vessels.[32]

Perhaps these statements are influenced by present or recent conditions. It is obvious that giant ropelike seaweeds in masses would more than materially impede the action of the galley oars, which were the main reliance in time of calm of the ancient and medieval navigators. Also it is hardly to be believed that small sailing vessels could freely drive through them with an ordinary wind. If the weeds were so unobstructive, why all these complaints and warnings out of remote centuries? In the days of powerful steamships and when the skippers of sailing vessels have learned what area of sea it is best to avoid, there may well be a lack of formal reports of impediment; but it certainly looks as though there were some basis for the long established ill repute of the Sargasso Sea.

Summary

For the genesis of Atlantis we have then, first, the great idealist philosopher Plato minded to compose an instructive pseudo-historical romance of statesmanship and war and actually making a beginning of the task; and, secondly, the fragmentary cues and suggestive data which came to him out of tradition and mariners' tales, perhaps in part through Solon and intervening transmitters, in part more directly to himself. Of this material we may name foremost the vague knowledge of vast impeded regions in the Atlantic believed to be shallow and requiring a physical explanation; then rumors of cataclysms and sunken lands in the same ocean; then legends of ancient hostilities between dwellers

[32] Reprint of Hydrographic Information: Questions and Answers, No. 2, June 2, 1910, Hydrographic Office, Washington, D. C., p. 17.

beyond the Pillars of Hercules and the peoples about the Mediterranean; and finally the reflection of the Persian war on the shadowy ancient past of Athens—Athens the defender and victor, Athens the Queen of the Sea.

Every solution of the Atlantis problem must be conjectural. The above is offered simply as the best conjecture to which I can see my way

CHAPTER III

ST. BRENDAN'S EXPLORATIONS AND ISLANDS

The Lismore Version of the Saint's Adventures

The fifteenth-century Book of Lismore, compiled from much older materials, tells us that St. Brenainn (evidently St. Brendan, the navigator)

> desired to leave his land and his country, his parents and his fatherland, and he urgently besought the Lord to give him a land secret, hidden, secure, delightful, separated from men. Now after he had slept on that night, he heard the voice of the angel from heaven, who said to him, "Arise, O Brenainn," saith he, "for God hath given thee what thou soughtest, even the Land of Promise" . . . and he goes alone to Sliab Daidche and he saw the mighty intolerable ocean on every side, and then he beheld the beautiful noble island, with trains of angels (rising) from it.[1]

Thus far, in the rather redundant style of such literature, from the Life of Brenainn in the Lives of the Saints of this old manuscript. After a century and a half of disappearance this manuscript was accidentally discovered in 1814, in a walled-up recess, by workmen engaged on repairs.

Mr. Westropp holds that this Lismore version is the "simplest and probably the earliest;"[2] but its full-blown development of certain marvels (such as the spending of every Easter for at least five years on the back of a vast sea monster as a substitute for an island) may well awaken a question as to the validity of this conjecture.

However, the suggestion of the voyage by a dream seems likely enough, and his mood was in keeping with the anchorite enthu-

[1] Anecdota Exoniensia: Lives of the Saints, from the Book of Lismore, edited, with a translation, notes, and indices, by Whitley Stokes, Oxford, 1890, p. 252.

[2] T. J. Westropp: Brasil and the Legendary Islands of the North Atlantic: Their History and Fable, *Proc. Royal Irish Acad.*, Vol. 30, Section C, 1912–13, pp. 223–260; reference on p. 230.

siasm of his time. Of course he promptly set forth to find his "promised land;" at first, in a hide-covered craft, with failure in spite of long endeavor; afterward, by advice of a holy woman, in a large wooden vessel, built in Connaught and manned by sixty religious men, with final success.

Another Version

Another version gives the credit of the first incitement to a purely human visitor, a friendly abbot, St. Brendan's aim being to reach an island "just under Mount Atlas." Here a holy predecessor, Mernoc by name, long vanished from among men, was believed to have hidden himself in "the first home of Adam and Eve." To all readers this was a fairly precise location for the earthly paradise. The great Atlas chain forms a conspicuous feature of medieval maps, running down to sea (as it does in reality) near Lanzarote and Fuerteventura, the innermost of the Canaries, which seem like detached, nearly submerged, summits of the range.

This narrative is longer and more detailed than that of the Book of Lismore and gives more plentiful indications of voyaging, especially toward the end, in southern seas. In its picture of volcanic fires it recalls occasional outbursts of Teneriffe and its neighbors. "They saw a hill all on fire, and the fire stood on each side of the hill like a wall, all burning." A visit is also recorded to a neighboring land, apparently continental, which the adventurers penetrated for forty days' travel to the banks of a magical river, whence they brought away "fruit and jewels." This may well be meant for Africa, obviously quite near these Fortunate Islands.

Attempts to Explain the Origin of the Brendan Narratives

It has been intimated that the narratives of "St. Brendan's Navigation" may have originated in misunderstood tales of his early sea wanderings around the coasts of Ireland seeking for a monastery site. He was successful in this at least, being best

known (excepting as a discoverer) for the great religious establishment at Clonfert, not the first which he founded in the sixth century but the most widely known and the greatest.

Another explanation casts doubts upon his real existence and supposes the story of the discoveries to have arisen by confusion of language with the well-known pagan "Voyage of Bran," perhaps the earliest of the ancient Irish Imrama, or sea sagas.

It has also been said that the origin of the Brendan narratives may be found in "a ninth-century sermon elaborated up to its present form by the eleventh century."[3] A ninth-century manuscript is said to be in the Vatican library.

A Norman French Version

A Norman French translation was turned into Norman French verse by some trouvère of the court for the benefit of King Henry Beauclerc and his Queen Adelais early in the twelfth century and partly translated metrically into English for *Blackwood's Magazine* in 1836. It avers that the saint set sail for an

> Isle beyond the sea
> Where wild winds ne'er held revelry,
> But fulfilled are the balmy skies
> With spicy gales from Paradise;
> These gales that waft the scent of flowers
> That fade not, and the sunny hours
> Speed on, nor night, nor shadow know.[4]

They sail westward fifteen days from Ireland; then in a month's calm drift to a rock, where they find a palace with food and where Satan visits them but does no harm. They next voyage seven months, in a direction not stated, and find an island with immense sheep; but, when they are about to cook one, the island begins to sink and reveals itself as a "beast." They reach another island where the birds are repentant fallen angels. From this they journey six months to an island with a monastery founded by St. Alben. They sail thence till calm falls on them and the sea be-

[3] Westropp, Brasil, p. 229.

[4] The Anglo-Norman Trouvères of the 12th and 13th Centuries, *Blackwood's Edinburgh Mag.*, Vol. 39, 1836, pp. 806–820; reference on p. 808.

comes like a marsh; but they reach an island where are fish made poisonous by feeding on metallic ores. A white bird warns them. They keep Pentecost on a great sea monster, remaining seven weeks. Then they journey to where the sea sleeps and cold runs through their veins. A sea serpent pursues them, breathing fire. Answering the saint's prayer, another monster fights and kills the first one. Similarly a dragon delivers them from a griffin. They see a great and bright jeweled crystal temple (probably an iceberg). They land on shores of smoke, flame, blast, and evil stench. A demon flourishes before them, flies overhead, and plunges into the sea. They find an island of flame and smoke, a mountain covered with clouds, and the entrance to hell. Beyond this they find Judas tormented. Next they find an island with a white-haired hermit, who directs them to the promised island, where another and altogether wonderful holy man awaits them, of whom more anon.

In this version, as in others, there are passages—such as the mention of extreme cold and the account of a great floating structure of crystal—which imply a northward course for their voyage in some one of its stages. So greatly was Humboldt impressed by this and by the insistence on the Isle of Sheep, which he identified with the Faroes, that he restricted in theory the saint's navigation to high latitudes.[5]

The Probable Basis of Fact

But it is noticeable that every version gives St. Brendan the task of finding a remote island, which was always warm and lovely, and chronicles the attainment of this delight, though he finds other delectable islands near it or by the way. The metrical description before quoted is surely explicit enough, but the Book of Lismore outdoes it in a very revel of adjectives. As though praises alone failed to satisfy the celebrant, he introduces the figure of a holy ungarmented usher—a living demonstration of

[5] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent et des progrès de l'astronomie nautique aux quinzième et seizième siècles, 5 vols., Paris, 1836–39; reference in Vol. 2, p. 166.

the benignity of the climate. He was "without any human raiment, but all his body was full of bright white feathers like a dove or sea mew; and it was almost the speech of an angel that he had." "Vast is the light and fruitfulness of the island," he cried in welcome and launched forthwith on a prodigal expenditure of superextolling words outpoured on their new delightful home. It is all perfectly in keeping with the glow and luxuriance of sun-warmed shores and the unique airiness of his spontaneous raiment. Clearly "summer isles of Eden," and nothing that has to do with icebergs or wintry blasts, are called for in this case.

About six centuries lie between St. Brendan's experiences and the earliest writing purporting to relate them and generally accepted as to date. Doubtful manuscripts and miscellaneous allusions—also often doubtful—may lessen the gap; but at best we have several centuries bridged by tradition only, and that rather inferred than known. It seems likely that he really visited and enjoyed some remote lovely islands, not very often reached from the mainland, such as could in any age have been discovered among the eastern Atlantic archipelagoes. In doing so he might well meet with surprising adventures, readily distorted and magnified; and the first tales of them would be basis enough for the florid fancy of Celtic and medieval romancers, growing in extravagance with passing generations.

The Cartographic Evidence

That he found some island or islands was certainly believed, for his name is on many maps in full confidence. But as to the particular islands thereby identified we find that conjecture had a wide range, varying in different periods and even with individual bias.

The Hereford Map of circa 1275

Probably its first appearance is on the Hereford map of 1275 or not much later,[6] the inscription being "Fortunate Insulae sex

[6] R. D. Benedict: The Hereford Map and the Legend of St. Brandan, *Bull. Amer. Geogr. Soc.*, Vol. 24, 1892, pp. 321–365; reference on p. 344.

sunt Insulae Sct Brandani." It is about on the site of the Canary group, and the elliptical island Junonia is just below. The showing is uncertain and conventional; also the number six misses the mark by one; still there can be no doubt that the Canaries as a whole were intended. Concerning them Edrisi[7] had observed, about 1154: "The Fortunate Islands are two in number and are in the Sea of Darkness." Perhaps he had Lanzarote and Fuerteventura, the most accessible pair, especially in mind. The surviving derivatives of the last eighth-century Beatus map[8] also bear the inscription "Insulae Fortunate" where the Canary Islands should be, but they assert nothing of "St. Brandan." Doubtless, dimly known, they had been reputed Isles of the Blest from prehistoric times. If St. Brendan found them, he found them already the "Fortunate Isles."

A tradition long survived—perhaps survives still—in the Canary archipelago supporting this identification by the Hereford map. Thus Father Espinosa,[9] who long dwelt in Teneriffe and wrote his book there between 1580 and 1590, avers that St. Brendan and his companions spent several years in that archipelago and quotes a still earlier "calendar," date not given, as authority for their mighty works done there "in the time of the Emperor Justinian." Even as late as the eighteenth century an expedition sailed from among them for an island believed to be outside of those already known and to be the one discovered by St. Brendan.

[7] Edrisi's "Geography," in two versions, the first based on two, the second on four manuscripts, viz.: (1) P. A. Jaubert (translator): Géographie d'Edrisi, traduite de l'Arabe en Français, 2 vols. (Recueil de Voyages et de Mémoires publié par la Société de Géographie, Vols. 5 and 6), Paris, 1836 and 1840; reference in Vol. 2, p. 27; (2) R. Dozy and M. J. De Goeje (translators): Description de l'Afrique et de l'Espagne par Edrisi: Texte arabe publié pour la première fois d'après les man. de Paris et d'Oxford, Leiden, 1866.

[8] Konrad Miller: Die Weltkarte des Beatus (776 n. Chr.), with facsimile of one derivative, Heft 1 of his "Mappaemundi: Die ältesten Weltkarten," Stuttgart, 1895. The 9 other derivatives on Pls. 2–9 of Heft 2 (Atlas von 16 Lichtdrucktafeln, Stuttgart, 1895).

[9] The Guanches of Tenerife: The Holy Image of Our Lady of Candelaria and the Spanish Conquest and Settlement, by the Friar Alonso de Espinosa of the Order of Preachers, translated and edited, with notes and an introduction, by Sir Clements Markham, *Hakluyt Soc. Publs.*, 2nd Ser., Vol. 21, London, 1907, p. 29.

FIG. 2—Section, in two continuous parts, of the Pizigani map of 1367 showing St. Brendan's Islands, Mayda, Brazil, Daculi, and other legendary islands. (After Jomard's hand-copied reproduction.)

The Dulcert Map of 1339

The second cartographical appearance of the saint's name seems to be in the portolan map[10] of Angelinus Dulcert, the Majorcan, dated 1339, where three islands corresponding to those now known as the Madeiras (Madeira, Porto Santo, and Las Dezertas) and on the same site are labeled "Insulle Sa Brandani siue puelan." Since "u" was currently substituted for "v," and "m" and "n" were interchangeable on these old maps, the last two words should probably be read "sive puellam." However the ending of the inscription be interpreted, there can be no doubt about St. Brendan and his title to the islands—according to Dulcert. And that this island group must be identified with Madeira and her consorts (though Madeira is named Capraria and Porto Santo is named Primaria) hardly admits of any question.

If the identification of them with the Fortunate Islands especially favored by St. Brendan were no more than a conjecture of Dulcert or some predecessor, it still had a certain plausibility from the facts of nature and the favorable report of antiquity. Strabo may have borne these islands in mind when he wrote: "the golden apples of the Hesperides, the Islands of the Blessed they speak of, which we know are still pointed out to us not far distant from the extremities of Maurusia, and opposite to Gades."[11] Apparently, too, Diodorus Siculus, writing half a century or so before the Christian era about what happened a thousand years earlier still, means Madeira by the "great island of very mild and healthful climate" and "in great part mountainous but much likewise champaign, which is the most sweet and pleasant part of all the rest;"[12] whereto the Phoenicians were storm-driven

[10] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, Stockholm, 1897, Pl. 8.

[11] The Geography of Strabo, literally translated with notes: the first six books by H. C. Hamilton, the remainder by W. Falconer, 3 vols., H. C. Bohn, London, 1854–57; reference in Vol. 1, p. 226.

[12] The Historical Library of Diodorus the Sicilian, in 15 Books, to which are added the fragments of Diodorus, and those published by H. Valesius, I. Rhodomannus, and F. Ursinus; transl. by G. Booth, Esq., 2 vols., London, 1814; reference in Vol. 1, Bk. 5, Ch. 2, pp. 308–309.

after founding Cadiz and which the Etrurians coveted but the Carthaginians planned to hold for themselves. Even since those old days there has been a general recognition of Madeira's balminess and slumberous, flowery, enticing beauty.

The Map of the Pizigani of 1367

Divers maps of the fourteenth and fifteenth centuries do not contain the name of St. Brendan (it is perhaps never spelled Brendan in cartography) and hence do not count either way. But the identification of the notable map of 1367 of the brothers Pizigani[13] (Fig. 2) is the same as Dulcert's, the inscription being also given in the alternative. Like many oceanic features of this strange production it is by no means clear, but seems to read "Ysole dctur sommare sey ysole pone+le brandany." Perhaps it is to be understood as the "islands called of slumber or the islands of St. Brandan." There is at any rate no doubt about the last word or its meaning. But, as if to place the matter beyond all question, a monkish figure, generally accepted as that of the saint himself, is depicted bending over them in an attitude of benediction.

This map evidently does not copy from Dulcert, for the forms, proportions, and individual names of the islands all differ. It calls the chief island Canaria, instead of Capraria or the later Madeira, and appends a longer name, which seems like Capirizia, to what have long been known as Las Dezertas, which appear greatly enlarged on it. Porto Santo is left unnamed on the map, perhaps because it lies so close to the general name of the group.

First Use of "Porto Santo" as Name of One of the Madeiras

A claim has been set up by the Portuguese that Porto Santo (Holy Port) was first applied to this island by their rediscoverers of the next century in honor of their safe arrival after peril, but this is abundantly confuted by its presence on divers fourteenth-

[13] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . . . , Paris, [1842–62], Pl. X, 1.

century maps, notably the Atlante Mediceo[14] of 1351. Also the Book of the Spanish Friar,[15] dating from about the middle of that century, contains in his enumeration of islands the words "another Desierta, another Lecname, another Puerto Santo." It would seem to have been a familiar appellation about 1350 or earlier, and the suggestion naturally occurs that it may have originated in the tradition of the visit and blessing of the Irish saint. At any rate, the Portuguese, in the fifteenth-century rediscovery, can have had nothing to do with conferring it.

Animal and Bird Names of Islands

Concerning such names as Canaria, Capraria, etc., which, by reason of other associations, appear oddly out of place in this group, the more general question is raised of the tendency to apply animal and bird names to Eastern Atlantic islands. Goat, rabbit, dog, falcon, dove, wolf, and crow were applied to various islands long before the Portuguese visited the Madeiras and Azores, finding them untenanted; these names long held their ground on the maps, and some of them are in use even now. The reason for their adoption piques one's curiosity. If they could be taken as throwing any light on the fauna of these islands in 1350, they might also instruct us as to the probability of prior human occupancy or previous connection with the mainland. But, of course, in any significant instances some fancied resemblance of aspect may have suggested the name.

Madeira

Madeira, meaning island of the woods or forest island, is a direct Portuguese translation from the Italian "I. de Legname"

[14] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 5 (Facsimile del Portolano Laurenziano-Gaddiano dell' anno 1351), Pl. 4.

[15] Book of the Knowledge of All the Kingdoms, Lands, and Lordships That Are in the World, and the Arms and Devices of Each Land and Lordship, or of the Kings and Lords Who Possess Them, written by a Spanish Franciscan in the middle of the 14th century, published for the first time with notes by Marcos Jiménez de la Espada in 1877, translated and edited by Sir Clements Markham, *Hakluyt Soc. Publs.*, 2nd Ser., Vol. 29, London, 1912; reference on p. 29.

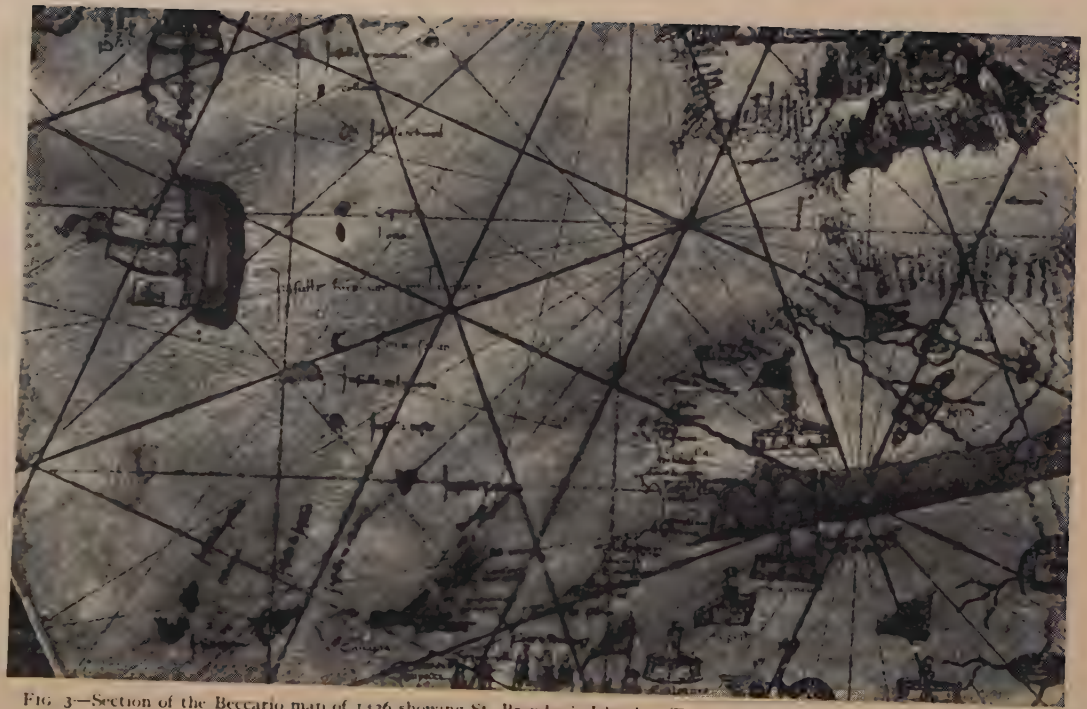

FIG. 3—Section of the Beccario map of 1426 showing St Brendan's Islands (From a photograph in the author's possession.)

of the Atlante Mediceo and various later maps, and of the "Lecname" of the unnamed Spanish friar who tells us he was born in 1305. It is sufficiently explained by the former condition of the island, the northern part of which is said to preserve still its abundant woodland. Perhaps the modern name of Madeira (or Madera) first appears on the map of Giraldi of 1426,[16] not very long after the rediscovery. But, with some cartographers, the Italian form of the name lingered on much later.

The Beccario Map of 1426

The alternative names, which had been given the Madeira group by Dulcert and the Pizigani, commemorating both the general fact of repose or blessedness and the delighted visit of St. Brendan, were closely blended (in what became the accepted formula) by the 1426 map of Battista Beccario, which unluckily had never been published in reproduction. Before the war, however, the writer obtained a good photograph of a part of it from Munich and herewith presents a section recording the words "Insulle fortunate santi brandany" (Fig. 3).[17] The first "a" of the final name may possibly be an "e," having been obscured by one of the compass lines; but I think not. Beccario repeats the same inscription in his very important and now well-known map[18] of 1435, substituting "sancti" for "santi" by way of correction.

With no serious variations, this name, "The Fortunate Islands of St. Brandan" (or Brendan), is applied to Madeira and her consorts by Pareto (1455;[19] Fig. 21), Benincasa (1482;[20] Fig. 22), the anonymous Weimar map formerly attributed to 1424 but

[16] Theobald Fischer, Portfolio 8 (Facsimile del Portolano di Giacomo Giraldi di Venezia dell'anno 1426), Pl. 4.

[17] First published by the author in the *Geogr. Rev.*, Vol. 8, 1919, Pl. 1, facing p. 40.

[18] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates).

[19] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 5.

[20] *Ibid.*, atlas, Pl. 4.

probably of about 1480 or 1490,[21] and divers others. In several instances (the Beccario maps, for example) the words are almost as near to the most southerly pair of the Azores, next above them, as to the Madeiras below, and it is possible that the condition of special beatitude was understood as extending to the former also.

The Bianco Map of 1448

At any rate, the verdict of the fifteenth century for Madeira was by no means unanimous. The 1448 map of Bianco,[22] which is very unlike his earlier one of 1436 so far as concerns the Atlantic, was prepared after all the Azores had been found again by the Portuguese except Flores and Corvo. It shows the old familiar inaccurately north-and-south string of the three groups of the Azores as they had come to him conventionally and traditionally, for evidently he did not dare or could not bring himself to discard them. But it also shows a slanting array of islands farther out, arranged in two groups respectively of two islands and five islands each and much more accurately presented as to location and direction than the old Italian stand-bys. These are quite clearly the Portuguese version, brought down to that date, of the newly rediscovered Azorean archipelago. But Bianco was obviously put to it to conjecture what islands these might be. He drew names from miscellaneous sources: in particular the largest island of the main group, corresponding to Terceira, bears the title "y^{a} fortunat de sa. beati blandan." Nevertheless, he shows and names Madeira, Porto Santo, and Deserta in their usual places. Evidently he had given up, if he ever held, all thought of annexing St. Brendan's special blessing to them. He seems very confident of the St. Brandan's Island of his slanting series, for it is drawn heavily in black and contrasts with the rather ghastly aspect of some neighbors. It has nearly the form of a Maltese cross, with long arms, but there is no reason to suppose that this has any significance.

[21] W. H. Babcock: Indications of Visits of White Men to America before Columbus, *Proc. 19th Internatl. Congr. of Americanists held at Washington, Dec. 27–31, 1915*, [Smithsonian Institution], Washington, D. C., 1917, pp. 469–478; map on p. 476.

[22] Theobald Fischer, Portfolio 11, Pls. 3 and 4.

Behaim's Globe of 1492

About the same period a Catalan map[23] of unknown authorship, without copying details, adopted the same expedient of duplicating the Azores by adding the new slanting series. It is quite independent in details, however, omitting mention of "St. Brandan" in particular, though Ateallo (Antillia?) is given in the second group but not in the corresponding place. This may possibly indicate some confusion of Antillia with St. Brandan's Island, such as is more evident in the transfer of the traditional outline of the former to the latter, little changed, by Behaim on his globe of 1492.

As it stands, this globe undoubtedly gives an original and unique representation of St. Brandan's Island far west of the Cape Verde group and emphasizes it by showing Antillia independently in a more northern latitude and less western longitude and also of quite insignificant size and form. But Ravenstein, who made a very thorough study of the matter, tells us[24] that this globe has been twice retouched or renovated and that the only way to ascertain exactly what was originally delineated is to treat it as a palimpsest and remove the accretions. In particular, he relates the story of an expert geographer who found the draftsmen about to transpose St. Brandan's Island and Antillia; but they yielded to his protest. Of course, it is impossible to be quite certain that these map figures are such and in such place as Behaim intended or that they bear the names he gave. The presumption favors the present showing, generally accepted as authentic. It gives the saint only one island, but this a very large one, set in mid-ocean between Africa and South America.

Possibly this location may be suggested by an undefined coast line shown by Bianco's map of 1448, previously mentioned, and, like Behaim's island, set opposite the Cape Verde group. In Venetian Italian it bears an obscure inscription, which calls it an "authentic island" and is variously interpreted as saying that

[23] *Ibid.*, Portfolio 13, Pl. 5.

[24] E. G. Ravenstein: Martin Behaim, His Life and His Globe, London, 1908, p. 59.

this coast is fifteen hundred miles long or fifteen hundred miles distant. The map of Juan de la Cosa (1500)[25] exhibits off the coast of Brazil, and with an outline similar to Behaim's, "the island which the Portuguese found." His date is too late to have influenced Behaim, too early to have been prompted by Cabral's accidental discovery of that very year. It is more likely that he and Behaim both were acquainted with Bianco's work or that all three drew from the same report of discovery.

Later Maps

From this time on there is never more than one island for St. Brendan, but it indulges in wide wanderings. Especially as the attention of men was attracted to the more northern and western waters, the map-makers shifted the island thither. Thus the map of 1544, purporting to be the work of Sebastian Cabot and probably prepared more or less under his influence,[26] places the island San Brandan not far from the scene of his father's explorations and his own. It lies well out to sea in about the latitude of the Straits of Belle Isle. The Ortelius map of 1570[27] (Fig. 10) repeats the showing with no great amount of change. In short, the final judgment of navigators and cartographers, before the island quite vanished from the maps, made choice of the waste of the North Atlantic as its most probable hiding place. Perhaps this westward tendency in rather high latitudes may be partly responsible for the hypotheses in recent times which have taken the explorer quite across to interior North America on a missionary errand. There is certainly nothing to prohibit any one from believing them, if he can and if it pleases him.

Conclusion

In general review it appears likely that St. Brendan in the sixth century wandered widely over the seas in quest of some

[25] Kretschmer, atlas, Pl. 7.

[26] S. E. Dawson: The Voyages of the Cabots in 1497 and 1498; With an Attempt to Determine Their Landfall and to Identify Their Island of St. John, *Trans. Royal Soc. of Canada*, Vol. 12, Section II, 1894; map on p. 86. The map is also reproduced by Jomard, in the work cited in footnote 13.

[27] A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, Pl. 46.

warm island, concerning which wonderful accounts had been brought to him, and found several such isles, the Madeira group receiving his special approval, according to the prevailing opinion of the fourteenth and fifteenth centuries. But this judgment of those centuries is the only item as to which we can speak with any positiveness and confidence.

CHAPTER IV

THE ISLAND OF BRAZIL

So far as we know, the first appearance of the island of Brazil in geography was on the map of Angellinus Dalorto,[1] of Genoa, made in the year 1325. There it appears as a disc of land of considerable area, set in the Atlantic Ocean in the latitude of southern Ireland (Fig. 4). But the name itself is far older. In seeking its derivation, one is free to choose either one of two independent lines.

Probable Gaelic Origin of the Word "Brazil"

The word takes many forms on maps and in manuscripts: as Brasil, Bersil, Brazir, O'Brazil, O'Brassil, Breasail. As a personal name it has been common in Ireland from ancient days. The "Brazil fierce" of Campbell's "O'Connor's Child" may be recalled by the few who have not wholly forgotten that beautiful old-fashioned poem. Going farther back, we find Breasail mentioned as a pagan demigod in Hardiman's "History of Galway"[2] which quotes from one of the Four Masters, who collated in the sixteenth century a mass of very ancient material indeed. Also St. Brecan, who shared the Aran Islands with St. Enda about A.D. 480 or 500, had Bresal for his original name when he flourished as the son of the first Christian king of Thormond. The name, however spelled, is said to have been built

[1] Alberto Magnaghi: La carta nautica costruita nel 1325 da Angelino Dalorto, with facsimile, Florence, 1898 (published on the occasion of the Third Italian Geographical Congress). Cf. also: *idem:* Il mappamondo del genovese Angellinus de Dalorto (1325): Contributo alla storia della cartografia mediovale, *Atti del Terzo Congr. Geogr. Italiano, tenuto in Firenzi dal 12 al 17 Aprile, 1898*, Florence, 1899, Vol. 2, pp. 506–543; and *idem:* Angellinus de Dalorco (*sic*), cartografo italiano della prima metà del secolo XIV, *Riv. Geogr. Italiana*, Vol. 4, 1897, pp. 282–294 and 361–369.

[2] James Hardiman: The History of the Town and County of Galway from the Earliest Period to the Present Time, Dublin, 1820, p. 2.

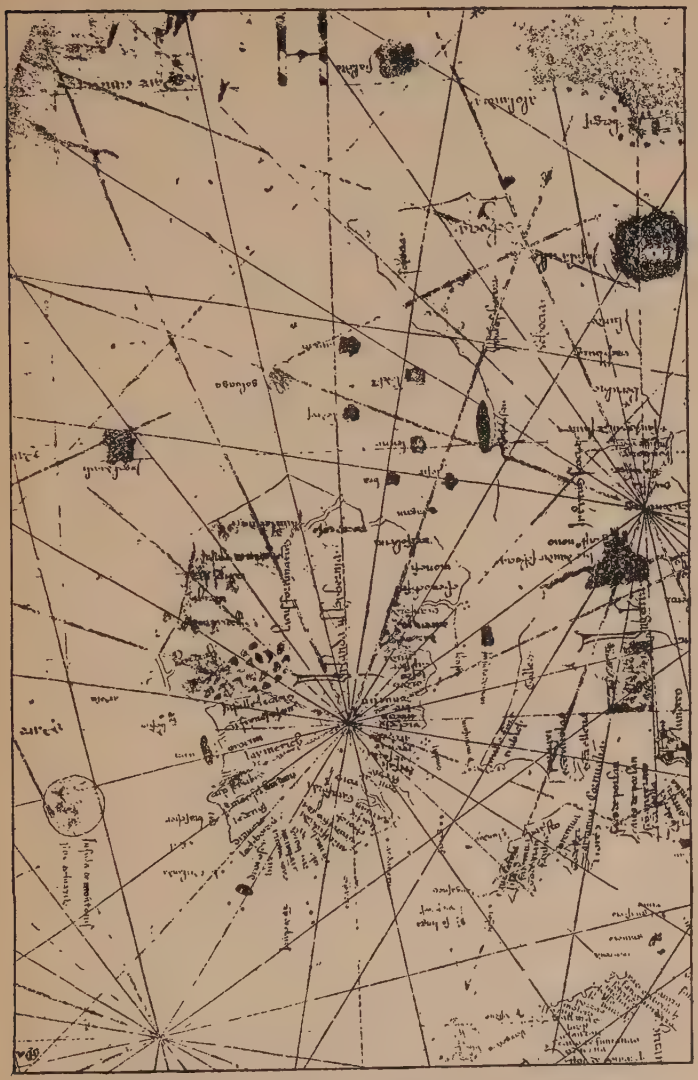

FIG. 4—Section of the Dalorto map of 1325 showing Brazil, Daculi, and other legendary islands. (After Magnaghi's photographic facsimile.)

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up from two Gaelic syllables "breas" and "ail," each highly commendatory in implication and carrying that note of admiration alike to man or island. Quite in consonance therewith the fifteenth-century map of Fra Mauro in 1459[3] not only delineated and named this Atlantic Berzil but appended the inscription "Queste isole de Hibernia son dite fortunate," ranking it as one of the "Fortunate Islands."

Another Suggested Derivation

On the whole, this seems the more likely channel of derivation of the name; or, if there were two such channels, then the more important one. For there is another suggested derivation, of which much has rightly been made and which we must by no means neglect. Red dyewood bore the name "brazil" in the early Middle Ages, a word derived, Humboldt believed,[4] by translation from the Arabic *bakkam* of like meaning, on record in the ninth century. He notes that Brazir, one form of the name, as we have seen, recalls the French *braise*, the Portuguese *braza* and *braseiro*, the Spanish *brasero*, the Italian *braciere*, all having to do with fire, which is normally more or less red like the dye. He does not know any tongue of medieval Asia which could supply *brasilli* or the like for dyewood. He suggests also the possibility of the word's being a borrowed place name, like indigo or jalap, commemorating the region of origin, but cannot identify any such place. His treatment of the topic leaves a feeling of uncertainty, with a preference for some sort of transformation from "bakkam" which would yield "brazil" probably by a figure of speech.

The earliest distinctly recognizable mention of brazil as a commodity occurs in a commercial treaty of 1193 between the

[3] [M. F.] Santarem: Atlas composé de mappemondes, de portulans, et de cartes hydrographiques et historiques depuis le VI^e^ jusqu'au XVII^e^ siècle . . . devant servir de preuves à l'histoire de la cosmographie et de la cartographie pendant le Moyen Age . . . , Paris, 1842–53, Pls. 43–48 (Quaritch's notation); reference on Pl. 46.

[4] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent, 5 vols., Paris, 1836–39; reference in Vol. 2, pp. 216–223. See also Fridtjof Nansen: In Northern Mists: Arctic Exploration in Early Times, transl. by A. G. Chater, 2 vols., New York, 1911; reference in Vol. 2, p. 229.

Duchy of Ferrara, Italy, and a neighboring town or small state, which presents *grana de Brasill* in a long list including wax, furs, incense, indigo, and other merchandise.[5] The same curious phrase, "grain of Brazil," recurs in a quite independent local *charta* of the same country only five years later. Muratori, who garnered such things into his famous compilation of Italian antiquities, avowed his bewilderment over this strange phrase, asking what dyewood could be so called; and Humboldt, reconsidering the whole matter, was no more clear in mind. He calls attention to the fact that cochineal very long afterward bore the same name, but evidently without considering this any sort of solution, as, indeed, it could not well be, since it bears distinct reference to the South American Brazil, which was discovered and named centuries later. But the facts remain that grain does not naturally mean dyewood of any kind or in any form, that its recurrence in public documents proves it a well-established characterization of a known article of trade in the twelfth century, and that its presentation is such as to indicate a granular packaged material.

Perhaps an explanation may be found in Marco Polo's experience and experiments nearly a century later than these Italian documents. Of Lambri, a district in Sumatra, he writes:

> They also have brazil in great quantities. This they sow, and when it is grown to the size of a small shoot they take it up and transplant it; then they let it grow for three years, after which they tear it up by the root. You must know that Messer Marco Polo aforesaid brought some seed of the brazil, such as they sow, to Venice with him and had it sown there, but never a thing came up. And I fancy it was because the climate was too cold.[6]

The seeds of that Sumatran shrub might well pass for grain in the sense of a small granular object, as we say a grain of sand, for example. But, since the plant was not and perhaps could not

[5] L. A. Muratori: Antiquitates Italicae Medii Aevi, 6 vols., Milan, 1738–42; reference in Vol. 2, pp. 891 and 894.

[6] Sir Henry Yule: The Book of Ser Marco Polo the Venetian Concerning the Kingdoms and Marvels of the East, 3rd edit., revised . . . by Henri Cordier, 2 vols., London, 1903; reference in Vol. 2, p. 299. See also pp. 306, 313, and 315 (note 4).

be reared in Italy, it seems unlikely that the seed should be a valued item of commerce, regularly listed, bargained for, and taxed. We do not hear of its being put to use as a dye; and, indeed, the bark or wood of the plant seems far more promising for that purpose. Like our distinguished forerunners in considering this little mystery, we must set it aside as not yet fully solved.

"Grain of Brazil" is not repeated in any entry, so far as I know, after the end of the twelfth century; but brazil as a commodity figures rather frequently; for example, in the schedules of port dues of Barcelona and other Catalan seaboard towns in the thirteenth century, as compiled by Capmany.[7] Thus in 1221 we find "carrega de Brasill," in 1243 "caxia de bresil," and somewhat later (1252) "cargua de brazil," the spelling varying as in the easy-going fourteenth- and fifteenth-century maps, the word being plainly the same. But the word and the thing were not confined to the Mediterranean, for a grant of murage rates of 1312 to the city of Dublin, Ireland, uses the words "de brasile venali."[8] This is pretty far afield and shows that the knowledge and use of brazil as taxable merchandise was nearly Europe-wide. As a rule, it has been taken for granted that the word meant either some special kind of red dyewood or dyewood in general. Marco Polo's account conforms rather to the former version, while Humboldt seems to lean toward the latter; but there is singularly little in the entries which tends to identify it as wood at all or in any way relate it thereto. Such words as *carrega*, *caxia*, *cargua*, show that it was put up in some kind of inclosure, and perhaps give the impression of comminution or at least absence of bulkiness. Most likely many kinds of red bark, red wood suitable for dyeing, and perhaps other vegetable products available for that purpose were sometimes included under the name brazil. People of that time were more concerned about

[7] Antonio de Capmany: Memorias historicas sobre la marina, comercio, y artes de la antigua ciudad de Barcelona, 4 vols., Madrid, 1779–92; reference in Vol. 2, pp. 4, 17, and 20.

[8] T. J. Westropp: Early Italian Maps of Ireland from 1300 to 1600, With Notes on Foreign Settlers and Trade, *Proc. Royal Irish Acad.*, Vol. 30, Section C, 1912–13, pp. 361–428; reference on p. 393.

results and means to attain them than about exactness in classification or definition.

It may well be that both lines of derivation of the name meet in the Brazil Island west of Ireland, that it was given a traditional Irish name by Irish navigators and tale tellers and mapped accordingly by Italians, who would naturally apply to it the meaning with which they were familiar in commerce and eastern story, so that the Island of Brazil, extolled on all hands, would come to mean along the Mediterranean chiefly the island where peculiarly precious dyewoods abounded. We know that Columbus was pleased to collect what his followers called brazil in his third and fourth voyages along American shores;[9] that Cabot felicitates himself on the prospect of finding silk and brazilwood by persistence in his westward explorations;[10] and that the great Brazil of South America received its final name as a tribute to its prodigal production of such dyes.

Free Distribution of the Name on Early Maps

But there is a curious phenomenon to be noticed—the free distribution of this name among sea islands, especially of the Azores archipelago, from an early date. Thus the Pizigani map of 1367[11] applies it with slight change of spelling not only to the original disc-form Brazil west of Ireland and to a mysterious crescent-form island, which must be Mayda, but to what is plainly meant for Terceira of the main middle group of the Azores (Fig. 2). The Spanish Friar, naming Brazil in his island list about 1350, appears also to mean Terceira, judging by the order of the names.[12] His matter-of-fact tone indicates a long-

[9] Humboldt, Examen critique, Vol. 2, p. 223.

[10] See Soncino's second letter to the Duke of Milan, published in many works on John Cabot; e. g. in "The Northmen, Columbus, and Cabot, 985–1503," edited by J. E. Olsen and E. G. Bourne (Series: Original Narratives of Early American History), New York, 1906; reference on p. 426.

[11] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . ., Paris, [1842–62], Pl. X, 1.

[12] Book of the Knowledge of All the Kingdoms, Lands, and Lordships That Are in the World, and the Arms and Devices of Each Land and Lordship, or of the Kings and Lords Who Possess Them, written by a Spanish Franciscan in the middle of the 14th century, published for the first time with notes by Marcos Jiménez de la Espada in 1877, translated and edited by Sir Clements Markham, *Hakluyt Soc. Publs.*, 2nd Ser., Vol. 29, London, 1912, p. 29.

settled item. This carries us well back toward the first settled date for the Irish Brazil in cartography. Further, the name still adheres to Terceira, though long restricted to a single mountainous headland. The explanation remains a matter of conjecture. Perhaps the Azores islands that bore it borrowed from the older Brazil west of Ireland. Perhaps also the word had gone about that islands were notable for dyes—archil, for example—and the special dye name brazil has been loosely affixed in consequence.

On some of the maps certain alternative names are given, which do not greatly further our investigation. Thus the very first one which shows Brazil—Dalorto, 1325—adds Montonis as a second choice (Fig. 4). This has been understood to mean the Isle of Rams, linking it with Edrisi's Isle of Sheep, a quite ancient fancy, sometimes referred to the Faroes, but of very uncertain identification. But Freducci,[13] 1497, makes it Montanis; Calapoda,[14] 1552, Montorius; and an anonymous compass chart of 1384,[15] Monte Orius. In all these the idea of mountains, not sheep, is dominant. The change from "a" to "o" is easy with a not very vigilant transcriber, and it is most likely that Freducci preserves the original form and meaning.

The Pizigani map of 1367 is confused and enigmatic on this point, as in all its inscriptions. It seems to read (Fig. 2) "Ysola de nocorus sur de brazar," but it may best be set aside as too uncertain.

Equally unenlightening is the "de Brazil de Binar" of Bianco's 1448 map.[16] If the "n" be read "m," the inscription may mean "Brazil of the two seas;" but the allusion is mystifying.

Fra Mauro's inscription before quoted merely bears testimony to Brazil's benign and almost Elysian repute and its connection with the Green Isle in fancy.

[13] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, Pl. 22.

[14] *Ibid.*, Pl. 26.

[15] *Ibid.*, Pl. 15.

[16] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 11 (Facsimile della Carta nautica de Andrea Bianco dell' anno 1448), Pl. 3.

Location and Shape of the Island

The circular form of Brazil and its location westward of southern Ireland are affirmed by many maps, including Dalorto, 1325 (Fig. 4); Dulcert, 1339;[17] Laurenziano-Gaddiano, 1351;[18] Pizigani, 1367 (Fig. 2); anonymous Weimar map, probably about 1481;[19] Giraldi, 1426;[20] Beccario, 1426[21] and 1435[22] (Fig. 20); Juan da Napoli, perhaps 1430;[23] Bianco, 1436 and 1448;[24] Valsequa, 1439;[25] Pareto, 1455[26] (Fig. 21); Roselli, 1468;[27] Benincasa, 1482[28] (Fig. 22); Juan de la Cosa, 1500;[29] and numerous later maps. Probably the persistent roundness is ascribable to a certain preference for geometrical regularity, which sowed these early maps with circles, crescents, trilobed clover leaves, and other more unusual but not less artificial island forms. The direction must stand for the tradition of some old voyage or voyages.

[17] A. E. Nordenskiöld, Periplus, Pl. 8.

[18] Theobald Fischer, Portfolio 5 (Facsimile del Portolano Laurenziano-Gaddiano dell' anno 1351), Pl. 5.

[19] W. H. Babcock: Indications of Visits of White Men to America before Columbus, *Proc. 19th Internatl. Congr. of Americanists, Held at Washington, Dec. 27–31, 1915* [Smithsonian Institution], Washington, D. C., 1917, pp. 469–478; map on p. 476.

[20] Theobald Fischer, Portfolio 8 (Facsimile del Portolano di Giacomo Giraldi di Venezia dell' anno 1426), Pl. 5.

[21] The section of which the author has a photograph (first published in the *Geogr. Rev.*, Vol. 8, 1919, opposite p. 40, and here reproduced, Fig. 3, somewhat curtailed) does not extend far enough to show the island of Brazil.

[22] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates).

[23] In the Kohl collection of maps relating to America, No. 17, in the Library of Congress, Washington, D. C.

[2·] A. E. Nordenskiöld, Periplus, Pl. 20; Theobald Fischer, Portfolio 11, Pl. 3.

[25] Original in Majorca. A good copy is owned by T. Solberg, Register of Copyrights, Washington, D. C.

[26] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 5.

[27] E. L. Stevenson: Facsimiles of Portolan Charts Belonging to the Hispanic Society of America, *Publs. Hispanic Soc of Amer. No. 104*, New York, 1916, Pl. 2.

[28] Kretschmer, atlas, Pl. 4, map 1.

[29] *Ibid.*, Pl. 7.

Significant Shape on the Catalan Map of 1375

But the celebrated Catalan map of 1375[30] above mentioned introduced a significant novelty, converting the disc into an annulus of land—of course, still circular—surrounding a circular body of water dotted with islets (Fig. 5). The preferred explanation thus far advanced connects these islets with the Seven Cities

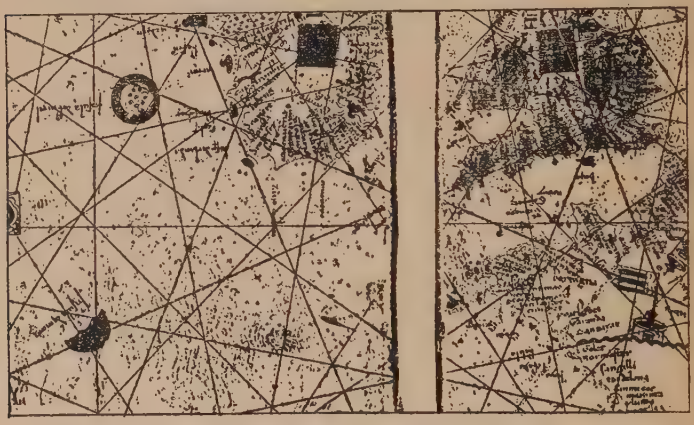

Fig. 5—Section of the Catalan map of 1375 showing the islands of Mayda and Brazil. (After Nordenskiöld's photographic facsimile.)

of Portuguese and Spanish legend.[31] But there seem to be nine islands, not seven, and it is not clear what necessary relation exists between isles and cities nor whence the idea is derived of the central lake or sea as a background. Moreover, the Island of the Seven Cities was most often identified with Antillia far to the south, and there seems no warrant for identification with Brazil. All considered, this explanation seems arbitrary, inadequate, and unconvincing.

The same ring form with inclosed water and islets is repeated by a map of the next century copied by Kretschmer.[32] It varies

[30] A. E. Nordenskiöld, Periplus, Pl. 11.
[31] *Ibid.*, p. 164.
[32] Kretschmer, atlas, Pl. 4, map 8.

only by showing just seven islets, if we may rely for this detail on his handmade copy.

Possible Identification with the Gulf of St. Lawrence Region

Now, in all the Atlantic Ocean and its shores there is one region, and one only, which thus incloses a sheet of water having islands in its expanse, and this region lies in the very direction indicated on the old maps for Brazil. I allude to the projecting elbow of northeastern North America, which most nearly approaches Europe and has Cape Race for its apex. Its front is made up of Newfoundland and Cape Breton Island. The remainder of the circuit is made up of what we now call southern Labrador, a portion of eastern Quebec province, New Brunswick, and Nova Scotia. This irregular ring of territory incloses the great Gulf of St. Lawrence, which has within it the Magdalens, Brion's Island, and some smaller islets, not to include the relatively large Anticosti and Prince Edward. It has two rather narrow channels of communication with the ocean, which might readily fail to impress greatly an observer whose chief mental picture would be the great land-surrounded, island-dotted expanse of water. The surrounding land would itself almost certainly be regarded as insular, for there was a strong tendency to picture everything west of Europe in that way, even long after the time when most of these maps were made. Even when Cartier[33] in 1535 ascended the St. Lawrence River it was in the hope of coming out again on the open sea—a hope that implies the very conception of an insular mass inclosing the gulf, not differing essentially from the showing of the Catalan map of 1375. The number of the islands is immaterial. We may picture the Catalan map-maker dotting them in from vague report as impartially as the far better known Lake Corrib is besprinkled with islands in most of the old maps—far more plentifully than the facts give warrant.

[33] Justin Winsor: Cartier to Frontenac, Geographical Discovery in the Interior of North America in Its Historical Relations, 1534–1700, With Full Cartographical Illustrations from Contemporary Sources, Boston and New York, 1894; reference on p. 28.

But it would seem that other observers were more impressed by the separation of Newfoundland, due to the Straits of Belle Isle and Cabot and the waterway (of the gulf) connecting them behind the great island. As a rule the maps presenting Brazil in this divided way adhere to the accepted latitude, which does not differ appreciably from that of the St. Lawrence Gulf region. The dividing passage, mainly from north to south but slightly curved at the ends which join the ocean, corresponds fairly well with the facts. The maps of Prunes, 1553[34] (Fig. 12), and Olives, 1568,[35] may be cited as instances of this divided form of Brazil. No explanation seems yet to have been offered except Nansen's,[36] that the dividing channel represents "the river of death (Styx)," and Westropp's,[37] that it may be owing to mistaken copying of a name space or label on some older map. But the former lacks any better basis than conjectured fancy and the latter is refuted by the position of the channel on most maps and by the general aspect of the delineation. As a matter of fact, the showing of most of the maps differs in little more than proportions from that of Gastaldi illustrating Ramusio in 1550,[38] when the Gulf of St. Lawrence was fairly well known to many, but appears as a rather narrow channel behind a broken-up Newfoundland, extending from the Strait of Belle Isle to the Strait of Cabot. As in the much older map referred to, the delineation of Gastaldi is perhaps to be explained by concentration of attention on the waterway and the ignoring of the wider parts of the expanse. Absolute demonstration of the causes of the divided Brazil of some maps and the ring of land inclosing an island-dotted body of water in others is, of course, impossible; but we can show that in the designated direction there is a region presenting both of these unusual features, so that one of the visitors might well be especially taken up with

[34] Kretschmer, atlas, Pl. 4, map 5.
[35] A. E. Nordenskiöld, Periplus, Pl. 29.
[36] Nansen, In Northern Mists, Vol. 2, p. 228.
[37] T. J. Westropp: Brasil and the Legendary Islands of the North Atlantic: Their History and Fable, *Proc. Royal Irish Acad.*, Vol. 30, Section C, 1912–13, pp. 223–260.
[38] Winsor, Cartier to Frontenac, p. 60.

one set of characteristics, another with the other set, and might depict the region accordingly. This is the more probable because the region was peculiarly exposed to accidental or intentional discovery from the west of the British islands and is known, in fact, to have been the first to be reached therefrom of all North America in times of historic record.

It must not be supposed that Brazil was always thought of as relatively near Europe. Nicolay in 1560[39] (Fig. 6) and Zaltieri in 1566[40] prepared maps which show a Brazil Island in distinctly American waters, practically forming part of the archipelago into which Newfoundland was supposed to be divided, or at least lying between it and the Grand Banks. These presentations no doubt may have been suggested by American discoveries and later theories, especially as no navigator had been able to find Brazil at any point nearer Europe; but again they may be at least partly due to surviving early traditions of the great distance westward at which this island lay. The Brazil of Nicolay and Zaltieri is, to be sure, a very small affair; but their maps were made about two and a half centuries after the earliest one which shows this island—ample time for many misconceptions to creep in. Their only value is in their illustration of locality.

The Catalan Map of about 1480

More important in every way is a Catalan map (Fig. 7) preserved in Milan and reproduced by Nordenskiöld in 1892,[41] but since copied partly by Nansen, by Westropp, and by others. It belongs to the fifteenth century—perhaps about 1480—and deserves clearly to rank as the only map before Columbus, thus far reported, which shows a part of North America other than Greenland. The latter had long before appeared in the well-known map of Claudius Clavus, 1427[42] (Fig. 16), no doubt on

[39] A. E. Nordenskiöld, Periplus, Pl. 27.

[40] Kretschmer, atlas, Pl. 19, map 3.

[41] A. E. Nordenskiöld: Bidrag till Nordens äldsta Kartografi, Stockholm, 1892, Pl. 5. Also (reduced) in Nansen's "In Northern Mists," Vol. 2, p. 280, and in T. J. Westropp's "Brasil," Pl. 20, facing p. 260.

[42] A. E. Nordenskiöld, Periplus, p. 90; also discussed by Joseph Fischer: The Discoveries of the Norsemen in America, With Special Relation to Their Early Cartographical Representation, transl. by B. H. Soulsby, and London, 1903.

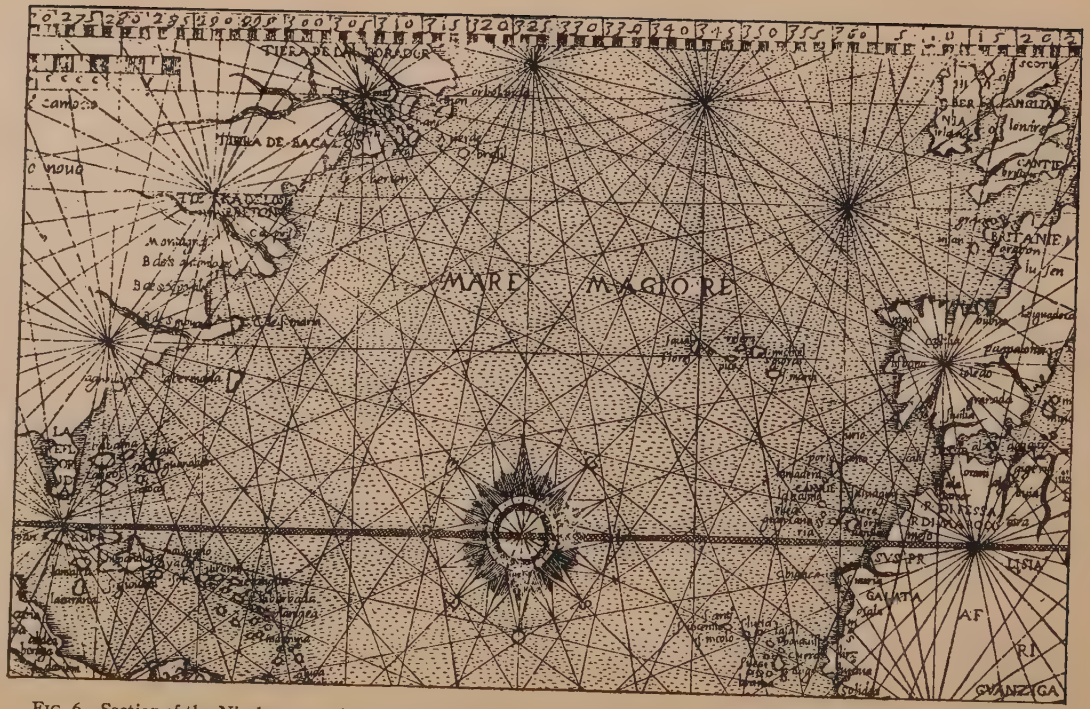

FIG. 6—Section of the Nicolay map of 1560 showing, on the American side of the Atlantic, Brazil, Man, and Insula Verde, the first two transferred from the European side. (After Nordenskiöld's photographic facsimile.)

the faith of the early Norse narratives and subsequent commercial intercourse, for the Norse Greenland colony is known to have existed in 1410 and probably did not die out entirely until much later. The Catalan map of about 1480 shows Greenland also as a great northwestern land mass beyond Iceland, identifying it by name as Illa Verde (Green Island). But just south, or west of south, of this Greenland at a slight interval and southwest of Iceland is drawn and named a large Brazil of the conventional circular disc form. Its position is that of Labrador, or perhaps Newfoundland, as it would naturally have been understood and reported by the Norse explorers. It can be nothing but one or both of these regions of America with perhaps neighboring lands.

It is true that this map shows also another Brazil of the divided kind (in this instance with a channel crossing it from east to west) located in mid-Atlantic about where Prunes and others show their bisected Brazil. But this seems only an instance of conservation and deference for authority, such as has often been manifested in cartography. Of such deference for authority perhaps there is no more striking instance than Bianco's map of 1448, which places the rediscovered Azores where they should be but also preserves them, on the faith of older maps, where they should not be—making a double series. The lesser bisected mid-Atlantic Brazil of the Catalan map may well be set aside as a survival without significance.

But the duplication by Bianco in 1448 raises a question of distance, which must be considered, for his Azores retained from the maps antedating the Portuguese rediscoveries are far nearer the coast of Europe than the truth at all warrants; and, so far as we can judge, the same cautious underestimating was applied to all oceanic islands as reported. Corvo, for example, is actually nearly half-way across the Atlantic, yet on all the maps for a long time is brought eastward to a position much nearer Portugal. We must suppose that the region about the Gulf of St. Lawrence, if visited, would be similarly treated, and we cannot tell how

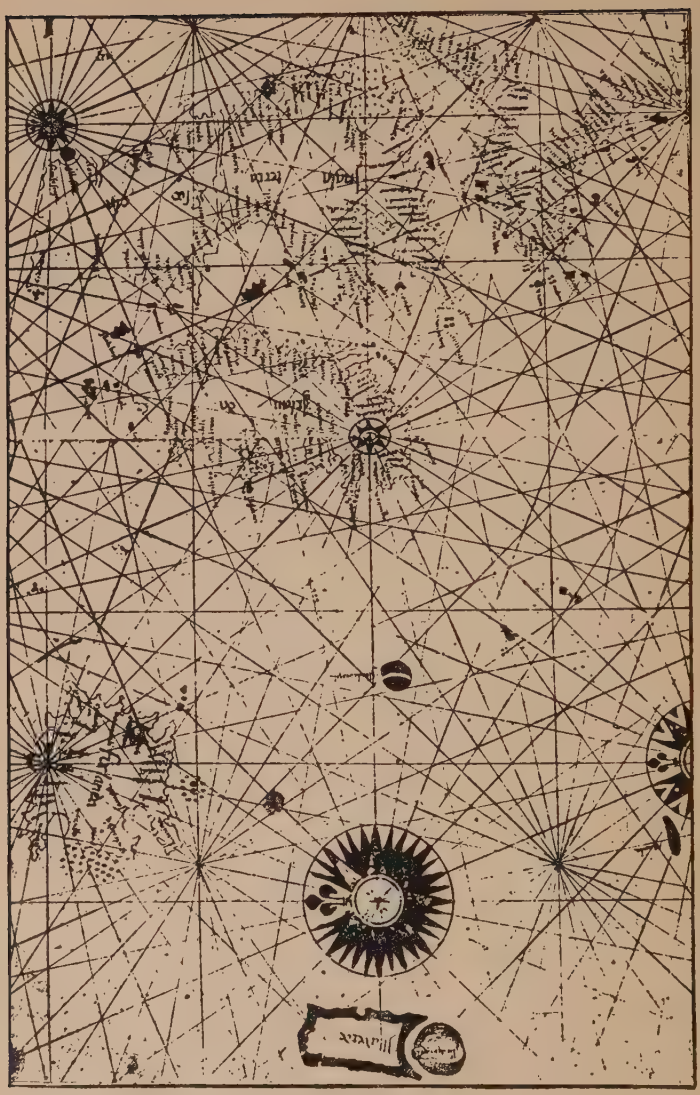

FIG. 7.—Section of the Catalan map of about 1480 showing Brazil Island and Green Island (Illa Verde). (After Nordenskiöld's photographic facsimile.)

far the minimization of distance might be carried by some map-makers.

The Sylvanus Map of 1511

The fact is, this matter does not rest in supposition only, for the thing has undoubtedly happened. The map of Sylvanus,[43] 1511, brings the Gulf of St. Lawrence and surroundings as an insular body almost as near Ireland as are many of the presentations of Brazil Island on older maps. He shows in front a single large island; a square gulf behind it; a bent shore line forming the border on the north, west, and south; and two gaps well representing the Straits of Belle Isle and Cabot. The names given are Terra Laboratorum and Regalis Domus. Nobody doubts that it illustrates the St. Lawrence Gulf region, though there has been much speculation as to what unknown explorer has had his discoveries commemorated here, thirteen years before the first voyage of Cartier. Why should not a like episode of discovery and imperfect record have happened at a still earlier date?

It is not to be supposed that Brazil Island was generally conceived of by intelligent persons as no farther at sea than it appears on the map of Dalorto, 1325, and divers later ones. Peasantry and fisher folk might, indeed, confuse it with the mythical Isle of the Undying—accessible only to a few chosen ones but vanishing from ordinary mortal gaze—and thus account for Brazil's elusiveness, though so near at hand; but the sturdy explorers of Bristol[44] who kept sailing westward in search of the island, before and after Columbus, sometimes at least being away on this quest for many months together, must often have passed over the very site given by Dalorto and far beyond. They were looking for solid earth and rock and must have been convinced that the real Brazil was to be found in remoter seas. Also, during a great part of the period in which Brazil appeared

[43] Winsor, Cartier to Frontenac, p. 11.

[44] See Ayala's letter to Ferdinand and Isabella, copied in many Cabot narratives; e. g. in the work cited above in footnote 10, p. 430, and at the beginning of the next chapter.

on the maps off the Blaskets and Limerick and unduly close to Ireland, Italian traders were habitually following the Irish western coast and trafficking in that port and others and must often have been blown out, or sailed out by choice, far enough for a landing on the island if it had actually been where Dalorto and others pictured it. The total lack of any such happening must have been convincing to all except devotees of the occult and those given over blindly to seashore tradition. No doubt the far westward showing of the fifteenth-century Catalan and the much later Nicolay and Zaltieri maps accorded with the general expectation of thoughtful and well-informed navigators.

Omission of the Name in Norse and Irish Records

It may seem strange that the Norse sagas do not mention Brazil by that name, though its relation to the Scandinavian colony of Greenland is made so conspicuous on the Catalan fifteenth-century map above referred to; also that there is no distinct Irish record of any voyage to Brazil as such, though the western ports of Ireland were natural points of departure and return for western voyages and though voyages to a far western Great Ireland are reported by the Norse from Irish sources. Perhaps there is no quite satisfactory answer to this. All narratives of the kind are fragmentary and more or less mythical, and the name Brazil may often have been used in the reports of Irish explorers, as it certainly was later the especial goal of the English, without having left any other trace than the name on the map and such hints as we have mentioned. The Norse seem to have adhered to their own names Markland and Vinland, only mentioning Great Ireland incidentally in the same neighborhood and Brazil not at all unless the delineation of the Catalan map be of their suggestion; but no really strong adverse argument can be founded on these matters of nomenclature and omission where all references and records are so meager.

There can be no certainty; but from the evidence at hand it seems likely that the part of America indicated, i. e. Newfoundland and neighboring shores, was visited very early by

Irish-speaking people, who gave it the commendatory name Brazil. Naturally one inclines to ascribe such an unremitting westward push to the powerful religious impulsion which, according to Dicuil, carried Irishmen to Iceland in the latter part of the eighth century and even bore them on, it is reported, some two hundred miles beyond it. The date, however, may have been much later. Yet it must have preceded Dalorto's map of 1325, whereon Brazil first appears by name.

Of evidence on the ground there is nothing; but what have we now to show even for the perfectly attested visits to the same region of Cabot and Cortereal? Their case rests on maps, governmental entries, and contemporary correspondence, luckily preserved. Earlier visits to Brazil have no epistles, no entries, to show but must rely on the maps and the general tradition in the British islands of such a western region across at least a part of the great sea.

CHAPTER V

THE ISLAND OF THE SEVEN CITIES

The mythical islands of the Atlantic (*les îles fantastiques*) on the old maps have had divers origins, instructive to study. Perhaps only one of them derives its name and being directly from a real human episode of a twilight period in history.

When the Moors descended on Spain in 711, routed King Roderick's army beside the Guadalete, and rapidly overran the Iberian Peninsula, it was most natural, indeed nearly inevitable, that some Christian fugitives should continue their flight from the seaboard to accessible islands already known or rumored, or even desperately commit themselves in blindness to the remoter mysteries of the ocean. Such an event would afford a fabric for the embroidery of later fancy. A part of this has been preserved by record; and it is curious to watch the development of the story, which takes several forms, not differing widely, however, one from another.

The Island of Brazil

When Pedro de Ayala, Spanish Ambassador to Great Britain, found occasion in 1498 to report English exploring activities to Ferdinand and Isabella, he wrote:

> The people of Bristol have, for the last seven years, sent out every year two, three, or four light ships (caravels) in search of the island of Brasil and the seven cities.[1]

There is indeed one well-attested voyage of 1480 conducted by well-known navigators, seeking this insular Brazil, and it was not the earliest.

[1] G. E. Weare: Cabot's Discovery of North America, London, 1897, p. 59.

The first appearance of that island thus far reported, as we have seen in the preceding chapter, is on the map of Dalorto[2] (dated 1325; Fig. 4) as a disc of land well at sea, westward from Hibernian Munster; but the Catalan map of 1375[3] (Fig. 5) and at least one other[4] turn the disc into a ring surrounding a body of water which is studded with small islands—apparently nine in the Catalan map photographically reproduced by Nordenskiöld, though Dr. Kretschmer draws seven on the other. These miniature islands have sometimes been thought[5] to represent the seven cities of the old legend; but islets are not cities, and there seems no reason why each city should require an islet. However, the coincidence of number, exact or approximate, is suggestive.

Antillia

Antillia (variously spelled) was a home for the elusive cities more favored than Brazil by cartography and tradition. In 1474 Toscanelli, a cosmographer of Florence, being consulted by Christopher Columbus as to the prospects of a westward voyage, sent him a copy of a letter which he had written to a friend in the service of the King of Portugal. Its authenticity has been questioned, but it is still believed in by the majority of inquirers and may be accepted provisionally. In it occurs this passage:

> From the island Antilia, which you call the seven cities, and whereof you have some knowledge, to the most noble island of Cipango [Japan], are ten spaces, which make 2,500 miles.[6]

[2] Alberto Magnaghi: La carta nautica costruita nel 1325 da Angelino Dalorto, with facsimile, Florence, 1898 (published on the occasion of the Third Italian Geographical Congress). Cf. also: *idem:* Il mappamondo del genovese Angellinus de Dalorto (1325): Contributo alla storia della cartografia mediovale, *Atti del Terzo Congr. Geogr. Italiano, tenuto in Firenze dal 12 al 17 Aprile, 1898*, Florence, 1899, Vol. 2, pp. 506–543; and *idem:* Angellinus de Dalorco (*sic*), cartografo italiano della prima metà del secolo XIV, *Riv. Geogr. Italiana*, Vol. 4, 1897, pp. 282–294 and 361–369.

[3] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, Pl. 2.

[4] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 4, map 8.

[5] E. g. by Nordenskiöld, *op. cit.*, p. 164.

[6] Ferdinand Columbus: The History of the Life and Actions of Adm. Christopher Columbus, and of His Discovery of the West-Indies, Call'd the New World, Now

The name Antillia had appeared on the maps much earlier. As Atilae, or Atulae, it is doubtfully found in an inscription on that of the Pizigani (1367;[7] Fig. 2), identifying a "shore," not drawn, on which a colossal statue of warning had been erected. The location seems to be somewhere in the region where Corvo of the Azores should appear.

We meet the island name, for the first time unmistakably, on the map of Beccario (Becharius) of 1435[8] (Fig. 20). It is applied to the chief of a group of four large islands, comparable to nothing actually in the western Atlantic except the Greater Antilles, or three of them with Florida (Bimini). They are collectively designated "Insulle a Novo Repte"—the "Newly Reported Islands." Antillia itself is shown as an elongated quadrilateral having its sides indented by seven two-lobed bays of identical form, beside another and larger bay in the southern end. Several subsequent maps repeat the delineation with little change, and the map of Benincasa (1482;[9] Fig. 22) supplies local names for the bays or the regions adjoining excepting only the lowest but one on the eastern side, which bay is opposite the middle of the island name Antillia. The other names as read by Dr. Kretschmer are Aira, Ansalli, Ansodi, Con, Anhuib, Ansesseli, and Ansolli. It will be observed that five of them borrow the first syllable of Antillia. Nobody has explained these names, and they seem mere products of linguistic fancy. But again the coincidence in number is impressive, although somewhat offset by the fact that the next largest island in the group, Saluaga, has a similar ar-

in Possession of His Catholic Majesty. Written by His Own Son, transl. from the Italian and contained in "A Collection of Voyages and Travels, Some Now First Printed from Original Manuscripts, Others Now First Published in English," by Awnsham Churchill and John Churchill (6 vols., London, 1732), Vol. 2, pp. 501–628; reference on p. 512.

[7] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales.....Paris, [1842–62], Pl. X, 1.

[8] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates).

[9] Kretschmer, atlas, Pl. 4, map 1.

rangement of five bays of like form and carries the names, similarly applied, of Arahas, Duchal, Imada, Nom, and Consilla. They can hardly be extra bishops' towns. At least we are in the dark about them. The anonymous map sometimes attributed to 1424 and preserved at Weimar[10] shows in photographic copy traces of names, or at least letters, on the part of Antillia which it represents. Its true date is believed to be about that of Benincasa's map above cited. But the markings do not seem to be identical and are very meager.

The Legendary Home of Portuguese Refugees

However, there can be no doubt of Toscanelli's meaning at an earlier date in the passage quoted. The same is true of Behaim's globe (1492), though he discards the accepted form of Antillia. He appends a long inscription, translated by Ravenstein as follows:

> In the year 734 of Christ, when the whole of Spain had been won by the heathen (Moors) of Africa, the above island Antilia, called Septe citade (Seven cities), was inhabited by an archbishop from the Porto in Portugal, with six other bishops, and other Christians, men and women, who had fled thither from Spain, by ship, together with their cattle, belongings, and goods. 1414 a ship from Spain got nighest it without being endangered.[11]

Again, in Ruysch's map of 1508 there is "a large island in the middle of the Atlantic Ocean between Lat. N. 37° and 40°. It is called Antilia Insula, and a long legend asserts that it had been discovered long ago by the Spaniards, whose last Gothic king, Roderik, had taken refuge there from the invasion of the Barbarians."[12]

Ferdinand Columbus, living between 1488 and 1539, says that some Portuguese cartographers had located

[10] W. H. Babcock: Indications of Visits of White Men to America before Columbus, *Proc. 19th Internatl. Congr. of Americanists, Held at Washington, Dec. 27-31, 1915*, [Smithsonian Institution], Washington, D. C., 1917, pp. 469–478; map on p. 476.

[11] E. G. Ravenstein: Martin Behaim: His Life and His Globe, London, 1908, p. 77.

[12] A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, p. 65 and Pl. 32.

Antilla . . . not . . . above 200 leagues due west from the Canaries and Azores, which they conclude to be certainly the island of the seven cities, peopled by the Portuguese at the time that Spain was conquered by the Moors in the year 714. At which time they say, seven bishops with their people embark'd and sailed to this island, where each of them built a city; and to the end none of their people might think of returning to Spain, they burnt the ships, tackle and all things necessary for sailing. Some Portuguese discoursing about this island, there were those that affirmed several Portuguese had gone to it, who could not find the way to it again.[13]

He relates particularly how "in the time of Henry infant of Portugal [perhaps about 1430], a Portuguese ship was drove by stress of weather to this island Antilla." The crew went to church with the islanders but were afraid of being detained and hurried back to Portugal. The Prince heard their story and ordered them to return to the island, but they escaped from him and were not found again. It is said that of the sand gathered on Antillia for the cook room a third part was pure gold.

Galvano tells of a still later visit; or possibly it is only another version of the same:

In this yeere also, 1447, it happened that there came a Portugall ship through the streight of Gibraltar; and being taken with a great tempest, was forced to runne westwards more then willingly the men would, and at last they fell upon an Island which had seven cities, and the people spake the Portugall toong, and they demanded if the Moors did yet trouble Spaine, whence they had fled for the losse which they received by the death of the king of Spaine, Don Roderigo.

The boateswaine of the ship brought home a little of the sand, and sold it unto a goldsmith of Lisbon, out of the which he had a good quantitie of gold.

Don Pedro understanding this, being then governour of the realme, caused all the things thus brought home, and made knowne, to be recorded in the house of justice.

There be some that thinke, that those Islands whereunto the Portugals were thus driven, were the Antiles, or Newe Spaine.[14]

[13] Ferdinand Columbus, p. 514.

[14] Antonio Galvano: The Discoveries of the World from Their First Original unto the Year of Our Lord 1555, *Hakluyt Soc. Publs.*, 1st Series, Vol. 30, London, 1862, p. 72.

Another Account

The Portuguese historian Faria y Sousa has yet another version. According to Stevens' translation:

> After Roderick's defeat the Moors spread themselves over all the province, committing inhuman barbarities. * * * The chief resistance was at Merida. The defendants, many of whom were Portuguese, that being the Supreme Tribunal of Lusitania, were commanded by Sacaru, a noble Goth. Many brave actions passed at the siege, but at length there being no hopes of relief and provisions failing, the town was surrendered upon articles. The commander of the Lusitanians, traversing Portugal, came to a seaport town, where, collecting a good number of ships, he put to sea, but to which part of the world they were carried does not appear. There is an ancient fable of an island called Antilla in the western ocean, inhabited by Portuguese, but it could never yet be found, and therefore we will leave it until such time as it is discovered, but to this place our author supposes these Portugals to have been driven.[15]

It is plain that Captain Stevens paraphrases with comments rather than translates. The original[16] avers that the fugitives made sail for the Fortunate Islands (the Canaries), in order that they might preserve some remnants of the Spanish race, but were carried elsewhere. It also specifies that the legendary island which they are supposed to have reached is inhabited by Portuguese and contains seven cities—*tiene siete cividades.*

This last account lacks positive mention of the emigrating bishops and for the first time names a definite though rather remote goal as aimed at by their effort. But the movement from Merida is well accounted for, and a trusted military commander would seem a natural leader for such an enterprise of wholesale escape. The bishops, implied by the seven cities, might well gather to him at Oporto or be picked up on the way. On the whole it seems the most easily believable version of the story; though of course it does not necessarily follow that they really chose any land so remote as Teneriffe and its neighbors—

[15] Manuel de Faria y Sousa: The History of Portugal, transl. by Capt. John Stevens, London, 1698; reference in Bk. 2, Ch. 6, p. 112.

[16] Manuel de Faria y Sousa: Epitome de las Historias Portuguesas, 2 vols., Madrid, 1628; reference in Part II, Ch. 7, p. 257.

if they knew of them—for a new abiding place. Of course the continuance of Portuguese language and civilization and the persistence of seven isolated towns through so many centuries must be ranked with the auriferous sands of Antillia as late products of the dreaming Iberian brain.

Mythical Location of the Seven Cities on the Mainland

The citations thus far given identify the Island of the Seven Cities with some legendary, but generally believed-in patch of land afar out in the ocean—sometimes with the Island of Brazil, more often with Antillia. But the earliest of them dates six or seven centuries after the supposed fact, and it may well be that a distinction was made at first, which became lost afterward by blending. In a still later stage of development the name of the Seven Cities becomes separate and strangely migratory, not avoiding even the mainland. We know, for instance, what power the Seven Cities of Cibola had to draw Coronado and his followers northward through the mountains and deserts of our still arid Southwest until all that was real of them stood revealed as the even then antiquated and rather uncleanly terraced villages of sun-dried brick which are picturesquely familiar on railway folders and in the pages of illustrated magazines.

But this was not the only part of North America on which the romantic myth alighted. The British Museum contains in MS. 2803 of the Egerton collection an anonymous world map,[17] (Fig. 8), forming part of a portolan atlas attributed by conjecture to 1508, which shows, somewhat as in La Cosa's map of 1500, the Atlantic coast distorted to a nearly westward trend, with the Seven Cities (Septem Civitates), represented by conventional indications of miters, scattered along a seaboard tract from a point considerably west of "terra de los bacalos" and the Bay of Fundy to a point nearly opposite the western end of Cuba. The cartographer's ideas of geography were exceedingly vague, but appar-

[17] E. L. Stevenson: Atlas of Portolan Charts: Facsimile of Manuscript in British Museum, *Publs. Hispanic Soc. of Amer. No. 81*, New York, 1911, folio 1b.

FIG. 8—Section of the world map in the portolan atlas of about 1508 known as Egerton MS. 2803 in the British Museum, placing the Seven Cities in North America and the name "Antiglia" in South America. (After Stevenson's photographic facsimile.)

ently he conceived of Portuguese episcopal domination for the coastal country between lower New England and Florida as we know them now. Perhaps, however, he merely meant to set down his cities somewhere on the eastern shore of temperate North America and has strewn them along at convenience.

Incidentally, this map is also interesting as one of a few which inscribe Antillia, with slight changes of orthography, on some part of the mainland of South America. In this instance "Antiglia" occupies a tract of the northwestern coastal country apparently corresponding to contiguous portions of Colombia, Ecuador, and Peru.

Later Reappearance As an Island

But the Island of the Seven Cities appeared as such on other maps and by this name only. Perhaps its most salient showing is on Desceliers' fine map of 1546[18] (Fig. 9), that entertaining repository of isles which are more than dubious and names which are fantastic. He presents it off the American coast about a third as far as the Bermudas and midway from Cape Breton to the Bay of Fundy. The size is considerable, the outline being deeply embayed on several sides and hence very irregular, almost as much so as Celebes. Two islets lie near two of its projecting peninsulas. It bears a brief inscription giving the name Sete Cidades and indicating that it belongs to Portugal.

This choice of location would have been more venturesome a century later. In 1546 there had been some exploring and much fishing in these waters but no determined settlement near them, and they were hardly yet familiar. However, the Ortelius map of 1570[19] (Fig. 10), and the Mercator map of 1587[20] find it more prudent to move this island farther south and farther out to sea, reducing its area, but retaining its traditional name. Not long after this, except for a local name on St. Michaels of the Azores, the Seven Cities disappear from geography.

[18] Kretschmer, atlas, Pl. 17.
[19] A. E. Nordenskiöld, Facsimile-Atlas, Pl. 46.
[20] *Ibid.*, Pl. 47.

FIG. 9—Section of the Descliers map of 1546 showing the Island of Seven Cities and various other legendary islands. (After Kretschmer's hand-copied reproduction.) The names are mostly upside down because on the original south is at the top.

FIG. 10—Section of Ortelius' world map of 1570 showing, of the legendary islands and regions discussed in the present work, the Island of Seven Cities ("Sept cites"), St. Brendan's Islands, Brazil, Vlaenderen, Green Island (Y. Verdo), Estotiland, Drogio, Frisland, Islands of Demons, La Emperadada, and Grocland. (After Nordenskiöld's photographic facsimile.)

Occurrence of the Name in the Azores

The exception noted is well worth considering. Just as Terceira retains her medieval name of Brazil to designate one headland, St. Michaels has still its valley of the Seven Cities. Brown's guidebook presents the fact very casually: "St. Michaels. Ponta Delgada. Brown's Hotel. About ten people. Among the chief sights are the lava beds coming from Sete Cidades. . . . At Sete Cidades, which is worth a visit, there is a great crater with two lakes at the bottom, one of which appears to be green, the other blue."[21]

This naïve incuriousness in the presence of something so significant of course has not been shared by a different order of observers. Buache[22] found here as he thought the genuine and only Seven Cities of the legend. Humboldt[23] opposed this view with a reminder of the Seven Cities of Cibola. But it is fair to remember that New Mexico was quite impossible for the Portuguese of 711 or thereabout, whereas St. Michaels Island offered an accessible and tempting place of refuge. The name could not have been derived from settlement in the former; but it might really be derived from settlement in the latter. Granting that the fugitives might not be able to maintain themselves there in safety for many years after the Arabs had begun their tentative and always uneasy incursions into the western Sea of Darkness, it still may be that the town or towns of this hidden island valley might endure long enough and seem imposing enough and be visited often enough by Christians from the mainland to supply the nucleus of the most picturesque and adventurous of legends; and this tale might follow any later migration into the unknown, or survive and find new abiding places for the name and fancy long after the

[21] A. S. Brown: Guide to Madeira and the Canary Islands (with notes on the Azores), 5th edit., London, 1898, p. 148.

[22] N. Buache: Recherches sur l'ile Antillia et sur l'époque de découverte d'Amérique, *Mémoires de l'Institut des Sciences, Lettres, et Arts*, Vol. 6, 1806, pp. 1–29, following p. 84 of Section entitled "Histoire" and appended list. See p. 13.

[23] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent et des progrès de l'astronomie nautique aux quinzième et seizième siècles, 5 vols., Paris, 1836–39; reference in Vol. 2, p. 281.

original colony—archbishop and bishops and congregations, military commanders, and mailed soldiery—had all been somehow destroyed or had melted apart and drifted away. All that remains certain is the continued presence of the name of the Seven Cities on that spot.

Some ruins are said to have marked it formerly, but very little is visible now, if we may trust the following description by an intelligent visitor in the middle of the last century:

> Emerging from these sunken lanes, so peculiar to the island of St. Michael's, we come to the green hills which border the village and the valley of the Seven Cities. . . . From these dull evergreen mountains, stretching before us without apparent end, we speedily had an unexpected change. Suddenly the mountain track up which we were climbing ended on the edge of a vast precipice, hitherto entirely concealed, and at a moment's transition disclosed a wide and deeply sunk valley with a scattered village and a blue lake. The hills which hemmed them in were bold and precipitous, tent-shaped, rounded and serrated. Others swept in soft and gentle lines into a little plain where the small village was nestled by the water side. The lake was of the deepest blue and so calm that a sea bird skimming over its surface seemed two, so perfect was its image in the water. The clouds above were floating in this very deep lake, and the inverted tops of the hills on every side were perfectly reflected in its bosom. A few women on the shore seemed rooted there, so steady were their reflections in the water, and the cattle standing in the shallows stood like cattle in a picture. . . . The sides slope gradually from this part of the valley into the level ground where the village stands. It is a small collection of cottages, without a church or a wineshop or a store of any kind, and at the time I entered it was enveloped in clouds of wood smoke which rose from the fires used in the process of bleaching cloth. This and clothes washing are the chief occupations of the villagers. . . .
>
> A portion of the lake is separated from the larger one by a narrow causeway. It is singular to notice the difference made in the two pieces of water by this small embankment; for, while the large lake is clear and crystalline, this is thick, green, and muddy, and as gloomy as the Dead Sea, with no clouds or birds or bright sky reflected in it.[24]

Perhaps a little excavating archeology might not be amiss in the neighborhood of the causeway and the green dead lakelet. But at least it is satisfactory to have a good external account

[24] Joseph Bullar and Henry Bullar: A Winter in the Azores and a Summer in the Baths of the Furnas, 2 vols., London, 1841; reference in Vol. 2, pp. 242–247.

of the only site in the world, so far as I know, which still bears the legendary name. As elsewhere used, this name has certainly wandered widely and been affixed to many places. Whether any of these represent real refuges of the original emigrants or their descendants or others like them no one can quite certainly say; but there is no evidence for it, and the probabilities are against it. Certainly no Spanish nor Portuguese community, of Moorish or of any pre-Columbian times, established itself in western lands for any great period to make good the aspiration of the fugitives of Merida.

CHAPTER VI

THE PROBLEM OF MAYDA

Of all the legendary islands and island names on the medieval maps, Mayda has been the most enduring. The shape of the island has generally approximated a crescent; its site most often has been far west of lower Brittany and more or less nearly southwest of Ireland; the spelling of the name sometimes has varied to Maida, Mayd, Mayde, Asmaida, or Asmayda. The island had other names also earlier and later and between times, but the identity is fairly clear. As a geographical item it is very persistent indeed. Humboldt about 1836 remarked that, out of eleven such islands which he might mention, only two, Mayda and Brazil Rock, maintain themselves on modern charts.[1] In a note he instances the world map of John Purdy of 1834. However, this was not the end; for a relief map published in Chicago and bearing a notice of copyright of 1906 exhibits Mayda. Possibly this is intended to have an educational and historic bearing; but it seems to be shown in simple credulity, a crowning instance of cartographic conservation.

Possible Arabic Origin of Name

If Mayda may, therefore, be said to belong in a sense to the twentieth century, it is none the less very old, and the name has sometimes been ascribed to an Arabic origin. Not very long after their conquest of Spain the Moors certainly sailed the eastern Atlantic quite freely and may well have extended their voyages into its middle waters and indefinitely beyond. They named some islands of the Azores, as would appear from Edrisi's treatise and other productions; but these names did

[1] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent et des progrès de l'astronomie nautique aux quinzième et seizième siècles, 5 vols., Paris, 1836–39; reference in Vol. 2, p. 163.

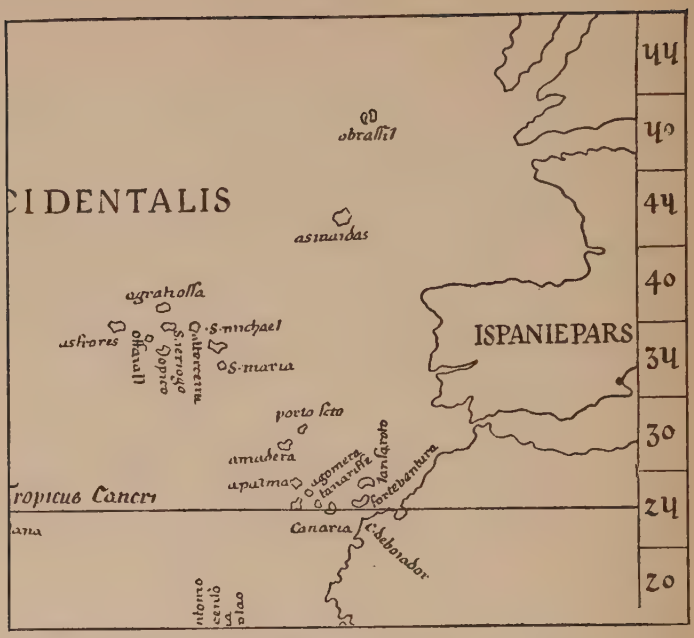

FIG. 11—Section of the map of the New World in the 1513 edition of Ptolemy showing the islands of Mayda (asmaidas) and Brazil (obrassil). (After Kretschmer's hand-copied reproduction.)

not adhere unless in free translation. The name Mayda was not one of those that have come down to us in their writings or on their maps, and its origin remains unexplained. It is unlike all the other names in the sea. Perhaps the Arabic impression is strengthened by the form Asmaidas, under which it appears (this is nearly or quite its first appearance) on the map of the New World in the 1513 edition of Ptolemy (Fig. 11).[2] But any possible significance vanishes from the prefixed syllable when we find the same map turning Gomera into Agomera,

[2] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols (text and atlas), Berlin, 1892; reference in atlas, Pl. 12, map 1.

Madeira into Amadera, and Brazil into Obrassil. Evidently this map-maker had a fancy for superfluous vowels as a beginning of his island names. He may have been led into it by the common practice of prefixing "I" or the alternative "Y" (meaning Insula, Isola, Ilha, or Innis) instead of writing out the word for island in one language or another.

However, there is a recorded Arabic association of this particular island under another name. It had been generally called Mam or Man, and occasionally other names, for more than a century before it was called Mayda. Perhaps the oldest name of all is Brazir, by which it appears on the map of 1367 of the Pizigani brothers (Fig. 2),[3] a form evidently modified from Brazil and shared with the round island of that name then already more than forty years old on the charts. The Brazil which we specially have to do with bears roughly and approximately the crescent form, which later became usually more neat and conventionalized under the name Man or Mayda. It appears south (or rather a little west of south) of the circular Brazil, which is, as usual, west of southern Ireland and a little south of west of Limerick. The crescent island is also almost exactly in the latitude of southern Brittany, taking a point a little below the Isle de Sein, which still bears that name. In this position there may be indications of relation with both Brittany and Ireland. The former relation is pictorially attested by three Breton ships. One of them is shown returning to the mouth of the Loire. A second has barely escaped from the neighborhood of the fateful island. A third is being drawn down stern foremost by a very aggressive decapod, which drags overboard one of the crew; perhaps she has already shattered herself on the rocks, offering the opportunity of such capture in her disabled state. A dragon flies by with another seaman, apparently snatched from the submerging deck. Blurred and confused inscriptions in strange transitional Latin seem to warn us of the special dangers of navigation in this quarter; the stav-

[3] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales.....Paris, [1842–62], Pl. X, 1.

ing of holes in ships, the tawny monsters, known to the Arabs, which rise from the depths, the dragons that come flying to devour. The words "Arabe" and "Arabour" are readily decipherable; so is "dragones." Perhaps there is no statement that Arabs have been to that island, for their peculiar experience may belong to some other quarter of the globe; but the verbal association is surely significant. The name Bentusla (Bentufla?) applied to this crescent island by Bianco in his map of 1448[4] has sometimes been thought to have an Arabic origin; but one would not feel safe in citing this as absolute corroboration. The Breton character of the ships, however, may be gathered (as well as from their direction and behavior) from the barred ensigns which they carry, recalling the barred standard set up at Nantes of Brittany, in Dulcert's map of 1339,[5] just as the *fleur-de-lis* is planted by him at Paris.

Mayda and the Isle of Man

We have, then, in this fourteenth-century island a direct recorded association with the Arabs, followed long after by what have been thought to be Arabic names. We have also a pictorial and cartographical connection with Brittany and also an indication of relations with Ireland. This last is fortified by its next and, except Mayda, its most lasting name.

The great Catalan map of 1375[6] (Fig. 5) calls it Mam, which should doubtless be read as Man, for it was common to treat "m" and "n" as interchangeable, no less than "u" and "v" or "i" and "y." Thus Pareto's map of 1455[7] (Fig. 21) turns the Latin "hanc" into "hamc" and "Aragon" into "Aragom." On some of the

[4] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 11 (Facsimile della carta nautica di Andrea Bianco dell' anno 1448), Pl. 3. See also Kretschmer, text, p. 184.

[5] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, Pl. 8.

[6] *Ibid.*, Pl. 11.

[7] Kretschmer, atlas, Pl. 5.

early maps, e. g. that of Juan da Napoli (fifteenth century),[8] the proper spelling "Man" is retained, just as it is retained and has been ever since early Celtic days, in the name of the home of "the little Manx nation" in the Irish Sea. That the same name should be carried farther afield and applied to a remote island of the Atlantic Ocean is quite in accordance with the natural course of things and the general experience of mankind. No doubt the name Man might be derived from other sources, but the chances are in this instance that the Irish people whose navigators found Brazil Island (or imagined it, if you please) did the same favor for the crescent-shaped "Man," quite overriding for a hundred years any preceding or competing titles.

Almost immediately there was some competition, for the Pinelli map of 1384[9] calls it Jonzele (possibly to be read I Onzele, a word which has an Italian look but is of no certain derivation), reducing the delineation of the island to a mere shred, bringing Brazil close to it, and giving the pair a more northern and more inshore location. Another map of about the same period follows this lead, but there the divergence ended. Soleri of 1385[10] reverted to the former representation; and about the opening of the fifteenth century the regular showing of the pair was established—Brazil and Man, circle and crescent, by those names and in approximately the locations and relative position first stated.

It is true that the crescent island is sometimes represented without any name, as though it were well enough known to make a name unnecessary. But during the fifteenth century, when it is called anything, with a bare exception or two, it is called Man. Its shape and general location are substantially those of the Catalan map of 1375 on the maps of Juan da Napoli;

[8] Listed as No. 17 in Justin Winsor: The Kohl Collection (now in the Library of Congress) of Maps Relating to America, Library of Congress, Washington, D. C., 1904, p. 27.

[9] A. E. Nordenskiöld, Periplus, Pl. 15.

[10] *Ibid.*, Pl. 18.

Giraldi, 1426;[11] Beccario, 1426[12] and 1435[13] (Fig. 20); Bianco, 1436 and 1448;[14] Benincasa, 1467[15] and 1482[16] (Fig. 22); Roselli, 1468;[17] the Weimar map, (probably) about 1481;[18] Freducci, 1497;[19] and others—arguing surely a robust and confident tradition.

Resumption of Name "Mayda"

On sixteenth-century maps this island is still generally presented, though lacking on those of Ruysch, 1508;[20] Coppo, 1528[21] (Fig. 13); and Ribero, 1529;[22] but suddenly and almost completely the name Mayda in its various forms takes the place of Man, a substitution quite unaccounted for. There are hardly enough instances of survival of the older name to be worth mentioning. Was there some resuscitation of old records or charts, now lost again, which thus overcame the Celtic claim and supplied an Arabic or at least a quite alien and unusual designation? The little mystery is not likely ever to be cleared up. The previously mentioned map from the Ptolemy edition of 1513 (Fig. 11), which perhaps first introduces it, also presents several other

[11] Theobald Fischer, Portfolio 8 (Facsimile del Portolano di Giacomo Giraldi di Venezia dell' anno 1426).

[12] The section of which the author has a photograph (first published in the *Geogr. Rev.*, Vol. 8, 1919, opposite p. 40, and here reproduced, Fig. 3, somewhat curtailed) does not extend far enough to show the island.

[13] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates).

[14] A. E. Nordenskiöld, Periplus, Pl. 20.; Theobald Fischer, Portfolio 11, Pl. 3.

[15] A. E. Nordenskiöld, Periplus, Pl. 33.

[16] Kretschmer, atlas, Pl. 4, map 1.

[17] E. L. Stevenson: Facsimiles of Portolan Charts Belonging to the Hispanic Society of America, *Publs. Hispanic Soc. of Amer. No. 104*, New York, 1916, Pl. 2.

[18] W. H. Babcock: Indications of Visits of White Men to America before Columbus, *Proc. 19th Internatl. Congr. of Americanists, Held at Washington, Dec. 27–31, 1915*, [Smithsonian Institution,] Washington, D. C., 1917, pp. 469–478; map on p. 476.

[19] A. E. Nordenskiöld, Periplus, Pl. 22.

[20] Kretschmer, atlas, Pl. 9, map 3; also in A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, Pl. 32.

[21] Kretschmer, atlas, Pl. 14, map 5.

[22] *Ibid.*, Pl. 15.

innovations in departing from the crescent form and shifting the island a degree or two southward; and these changes surely seem to hint at some fresh information. That there was no supposed change of identity is shown by the fact that succeeding cartographers down to and beyond the middle of that century revert generally to the established crescent form and to nearly the same place in the ocean previously occupied by Man, while applying the new name Mayda. Thus an anonymous Portuguese map of 1519 or 1520,[23] reproduced by Kretschmer, and the graduated and numbered map of Prunes, 1553[24] (Fig. 12), concur in placing Mayda or Mayd at about latitude 48° N., the latitude of Quimper, Brittany, and almost exactly the same as that given by the Pizigani to the crescent island on its first appearance on the maps as a clearly recognizable entity.

Transference of Mayda to American Waters

The maps made after the world had become more or less familiarized with the details of modern discoveries, in this case as in most others of its kind, indicate little except the dying out of old traditions, whatever they may have been, and haphazard or conventional substitution of locations and forms or the influence of the new geographic facts and theories. Thus Desceliers' map of 1546[25] (Fig. 9), a museum of strangely-named sea islands, makes the latitude of "Maidas" 47° and the longitude that of St. Michaels, but not long afterward Nicolay (1560;[26] Fig. 6) and Zaltieri (1566)[27] transferred the island to Newfoundland waters. Nicolay calls it "I man orbolunda," and places it just south of the Strait of Belle Isle. It is accompanied by Green Island and by Brazil, a little farther out on the Grand Banks where the Virgin Rocks may still be found at low tide. Taken together these three islands look like parts of a disintegrated Newfoundland. Zaltieri of 1566 gives Maida by that

[23] *Ibid.*, Pl. 12, map 2.
[24] *Ibid.*, Pl. 4, map 5.
[25] *Ibid.*, Pl. 17; also A. E. Nordenskiöld, Periplus, Pl. 51.
[26] A. E. Nordenskiöld, Periplus, Pl. 27.
[27] Kretschmer, atlas, Pl. 19, map 3.

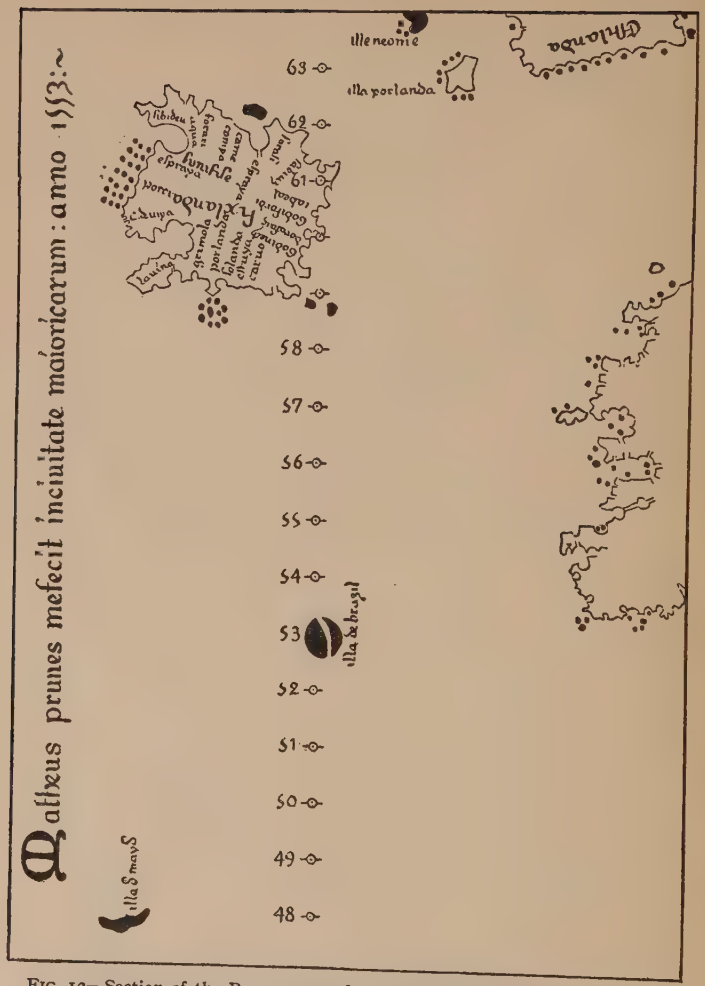

FIG. 12—Section of the Prunes map of 1553 showing Mayda (in latitude 48°), Brazil, and Estotiland ("Esthlanda"). (After Kretschmer's hand-copied reproduction.)

name more nearly the same outward location, though it is still distinctly American. Nicolay's name "orbolunda" is one of the many puzzling things connected with this island. His "Man" may be either a reversion to the fifteenth-century name, or, more likely, a modification of, or error in copying from Gastaldi's map-illustration[28] of Ramusio about ten years previously, which allots the same inclement site to an "isola de demoni" and depicts the little capering devils in wait there for their prey. It is likely, though, that Gastaldi had no thought of identifying it with Mayda. But the neighborhood of the island of Brazil and Green Island seem nearly conclusive evidence that Nicolay intended I Man for Mayda and had ascribed to it, by reason of evil association, the supposed attributes of Gastaldi's island. However, Ramusio himself in 1566,[29] the same year as Zaltieri, set his "Man" south of Brazil off the coast of Ireland. The only really important contributions of these maps are their testimony to the continued diabolical reports of Mayda, or Man, and the apparent conviction of Nicolay and Zaltieri that the island was after all American; a suggestion that could have had no meaning and no support in the times when America was unrecognized. Evidently these map-makers did not regard the inadequate western longitude of Mayda, or Man, in the older maps as a formidable objection. Presumably they were well aware how many of the insular oceanic distances as shown by these forerunners needed stretching in the light of later discovery. But their views with regard to an American Mayda seem to have ended with them, so far as map representation is concerned.

Possible Identity of Vlaenderen Island with Mayda

There is another curious and rather mystifying episodical divergence in the cartography of that period, this time on the

[28] Justin Winsor: Cartier to Frontenac: Geographical Discovery in the Interior of North America in Its Historical Relations, 1534–1700, with Full Cartographical Illustrations from Contemporary Sources, Boston and New York, 1894, p. 60.

[29] A. E. Nordenskiöld, Periplus, Fig. 76, p. 163.

part of the great geographers Ortelius and Mercator in their respective series of maps during the latter part of the sixteenth century, for example Ortelius of 1570[30] and Mercator of 1587.[31] Ortelius presents as Vlaenderen an oceanic island which certainly seems intended for Mayda (Fig. 10), while Mercator shows Vlaenderen as lying about half-way between Brazil and the usual site of Maida. The word has a Dutch or Flemish look. Of course there must be some explanation of it, but this is unknown to the writer. The natural inference would be that some skipper of the Low Countries thought he had happened upon it and reported accordingly. This was what occurred in the case of Negra's Rock, now held to be wholly fictitious though shown in many maps; and also in the case of the sunken land of Buss, now generally recognized as real and as a part of Greenland but recorded and delineated in the wrong place by an error of observation. It may be that Ortelius believed in a rediscovery of Mayda and that for some reason it should have the name latest given. But, in spite of the prestige of these great names, Vlaenderen did not continue on the maps, while Mayda did, though in a rather capricious way.

Persistence of Mayda on Maps Down to the Modern Period

There would be little profit in listing the maps of the seventeenth, eighteenth, and nineteenth centuries which persisted by inertia and convention in the nearly stereotyped delineation of Mayda but, of course, with slight variations in location and name. Thus Nicolaas Vischer in a map of Europe of 1670 (?)[32] shows "L'as Maidas" in the longitude of Madeira and the latitude of Brittany; a world map in Robert's "Atlas Universel" (1757)[33] gives "I. Maida" about the longitude of Madeira and the latitude of Gascony; and on a chart of the Atlantic Ocean published in

[30] A. E. Nordenskiöld: Facsimile-Atlas, Pl. 46.
[31] *Ibid.*, Pl. 47.
[32] Copy in map collection of American Geographical Society
[33] Atlas universel, par M. Robert, Géographe ordinaire du Roy, et par M. Robert de Vaugondy, son fils, . . . Paris, 1757, Pl. 13.

New York in 1814[34] "Mayda" appears in longitude 20° W. and latitude 46° N. But these representations have no significance except as to human continuity.

The evil reputation which was early established and seems to have hung about the island in later stages, assimilating the icy clashings and noises and terrors of the north as it had previously incorporated the monstrous fears of a warmer part of the ocean, is surely a curious phenomenon. I have fancied it may be responsible for the probably quite imaginary Devil Rock, which appears in some relatively recent maps, perhaps as a kind of substitute for Mayda, much in the fashion that Brazil Rock took the place of Brazil Island when belief in the latter became difficult. The present view of the U. S. Hydrographic Office, as expressed on its charts, is that Negra's Rock, Devil Rock, Green Island, or Rock, and all that tribe are unreal "dangers," probably reported as the result of peculiar appearances of the water surface. Whether the possibility has been wholly eliminated of a lance of rock jutting up to the surface from great depths and not yet officially recognized, I will not presume to say; but it seems highly improbable that there is anything of the sort in the North Atlantic Ocean except the lonely and nearly submerged peak of Rockall, some 400 miles west of Britain, and the well-known oceanic groups and archipelagoes.

Probable Basis of Fact Underlying This Legendary Island

What was this island, then, which held its place in the maps during half a millennium and more, under two chief names and occasional substitutes, designations apparently received from so many different peoples? One cannot easily set it aside as a "peculiar appearance of the surface" or as a mere figment of fancy. But there is nothing westward or southwestward of the Azores except the Bermudas and the capes and coast islands

[34] [E. M.] Blunt's New Chart of the Atlantic or Western Ocean, New York, 1814.

of America. The identification with some outlying island of the Azores, as Corvo, for example, is an old hypothesis; and the grotesquery of that rocky islet seems to have deeply impressed the minds of early navigators, lending some countenance to the idea. But the Laurenziano map of 1351[35] and the Book of the Spanish Friar[36] show that all the islands of the Azores group were known before the middle of the fourteenth century, and Corvo in particular had been given the name which it still holds. Man, afterward Mayda, appears on many maps of the fifteenth century, which show also the Azores in full. Perhaps this is not conclusive, for there are strange blunders and duplications on old maps; but it is at least highly significant. If Man, or Mayda, were really Corvo or another island of the Azores group, surely someone would have found it out in the course of the fifteenth or sixteenth century, just as it came to be perceived after a time that the Azores had been located too near to Europe and just as Bianco's duplication of the Azores in 1448 had finally to be rejected. Mayda, if real, must have been something more remote and difficult to determine than Corvo.

Perhaps Nicolay and Zaltieri were right in thinking that Mayda was America, or at least was on the side of the Atlantic toward America. The latitude generally chosen by the maps would then call for Avalon Peninsula, Newfoundland, often supposed to be insular in early days; or perhaps for Cape Breton Island, the next salient land feature. But that is an uncertain reliance, for the observations of pre-Columbian navigators would surely be rather haphazard, and they might naturally judge by similarity of climate. This would justify them in supposing that a region really more southerly lay in the latitude of northern France—for example Cape Cod, which juts out

[35] Theobald Fischer, Portfolio 5 (Facsimile del Portolano Laurenziano-Gaddiano dell' anno 1351), Pl. 4.

[36] Book of the Knowledge of All the Kingdoms, Lands, and Lordships That Are in the World, and the Arms and Devices of Each Land and Lordship, or of the Kings and Lords Who Possess Them, written by a Spanish Franciscan in the middle of the 14th century, published for the first time with notes by Marcos Jiménez de la Espada in 1877, translated and edited by Sir Clements Markham, *Hakluyt Soc. Publs.*, 2nd Ser., Vol. 29, London, 1912, p. 29.

conspicuously and is curved and almost insular. Or by going farther south, although nearer Europe, they might thus indicate the Bermudas, the main island of which is given a crescent form on several relatively late maps. But we must not lay too much stress on this last item, for divers other map islands were modeled on this plan. We may be justified, then, in saying that Mayda was probably west of the middle of the Atlantic and that Bermuda, Cape Cod, or Cape Breton is as likely a candidate for identification as we can name.

CHAPTER VII

GREENLAND OR GREEN ISLAND

The first account of Greenland given to the world, indeed the first mention of that region in literature, is by Adam of Bremen, an ecclesiastical official and geographical author.

Adam of Bremen's Account of Greenland

He interviewed in 1069 the enterprising king Sweyn of Denmark, and acquired from him divers Scandinavian and other northern items which Adam embodied about 1076 in his work "Descriptio Insularum Aquilonis," the Description of the Northern Islands. Nansen quotes, with other matter, the following passages:[1]

> . . . On the north this ocean flows past the Orchades, thence endlessly around the circle of the earth, having on the left Hybernia, the home of the Scots, which is now called Ireland, and on the right the skerries of Nordmannia, and farther off the islands of Iceland and Greenland. . .
>
> Furthermore, there are many other islands in the great ocean, of which Greenland is not the least; it lies farther out in the ocean, opposite the mountains of Suedea, or the Riphean range. To this island, it is said, one can sail from the shore of Nortmannia [*sic*] in five or seven days, as likewise to Iceland. The people there are blue ("cerulei", bluish-green) from the salt water; and from this the region takes its name. They live in a similar fashion to the Icelanders, except that they are more cruel and trouble seafarers by predatory attacks. To them also, as is reported, Christianity has lately been wafted.

It was in fact about seventy-five years since Leif, son of Eric the Red, according to the sagas, had effected that wafting from the Christian court of Norway to the still pagan Norsemen of his

[1] Fridtjof Nansen: In Northern Mists: Arctic Exploration in Early Times, transl. by A. G. Chater, 2 vols., New York, 1911; reference in Vol. 1, pp. 192 and 194.

father's far-western domain. For Adam clearly means these white people and not the Eskimos, with whom they had not yet come in contact and of whom no whisper had yet reached the European world unless it related to relics of former occupancy discerned on first landing. It is surely matter for astonishment to find the ruddy followers of hot-blooded Eric described as bluish-green and so conspicuous in this complexion that it gave their region its name. Perhaps there is no more curious instance to be found of the inveterate human tendency to read into any unfamiliar name some meaning that seems plausible.

It is not clear where Adam supposed Greenland to be located; perhaps he, too, was not clear about the matter. The earlier of his two passages on the subject seems to call for something like the true location in the far west; but the later mention of the mountains of Sweden has been understood by the most learned commentators to indicate a site directly north of Norway. King Sweyn perhaps had a fairly good idea of the sailing courses for Iceland and Greenland, but his guest may have assimilated the information rather confusedly. Adam seems convinced that Greenland was a distinctly oceanic island, with no suggestion of any near relation to any continent. In this respect he differs from certain maps of the fifteenth century with which we shall presently have to deal. We know now that the truth lies between these views; that the highly glaciated mass which we name in its entirety Greenland is, indeed, an island and probably the largest of islands but an island with the aspect and attributes of a peninsula, being barely severed from that polar archipelago which crowns our American mainland and being not very remote at one point from the mainland itself.

Its Insular Character

Adam's idea of oceanic insulation was accepted in many quarters, as the maps disclose. Of course, they may not have derived it from him in all instances, directly or indirectly, but at least they shared it. Usually the name, slightly changed, becomes the equivalent "Green Island" in one or another of several

languages. Thus, to take a very late instance, the map of Coppo, 1528[2] (Fig. 13), discloses near the true site of Greenland a mass of land elongated from east to west, but clearly all at sea with no greater land near it, and labeled Isola Verde. There seems no room for doubt of the meaning or origin of this name. That any land found there should be an island of the sea was the natural assumption of geographers at that time. Maps of the early sixteenth century generally show a scattering of islands south of North America sometimes approaching an archipelago, sometimes more widely distributed, and in either case being substitutes for what we now know as North America and its appendages.

As "Illa Verde" on the Catalan Map of 1480

In another well-known map[3] (Fig. 7), an unnamed cartographer, said to be Catalan, probably about 1480, delineates an elongated Illa Verde (using the Portuguese name for island), locating it southwest of Iceland, which bears the name Fixlanda, but is easily identifiable by its outline and geographical features. His Illa Verde runs nearly north and south, approximating more closely than Coppo's island the true trend of Greenland. It also by its greater bulk seems founded on more adequate information. It is equally at sea and remote from other land, except that off its concave southern end, with a narrow interval, lies a large circular island named Brazil, our old mythical acquaintance of medieval maps not often located so far westward but, as we have seen in Chapter IV, apparently intended to represent the Gulf of St. Lawrence region. These two islands strikingly resemble in general situation and arrangement the Greenland and Estotiland (Labrador) in a map (Fig. 14) illustrating Torfaeus' early eight-

[2] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 14, map 5.

[3] A. E. Nordenskiöld: Bidrag till nordens äldsta kartografi, Stockholm, 1892, Pl. 5. Also (reduced) in Nansen (Vol. 2, p. 285), and in T. J. Westropp: Brasil and the Legendary Islands of the North Atlantic: Their History and Fable, *Proc. Royal Irish Acad.*, Vol. 30, Section C, 1912–13, pp. 223–260; see Pl. 20, opp. p. 260.

eenth century "Gronlandia,"[4] except that the rounded outline of Estotiland is not completed, its proportional area is greater than "Brazil," the strait between the two bodies of land is a little wider, and the lower end of Torfaeus' Greenland is not made concave like that of Illa Verde. But again there can be

FIG. 13—Coppo's world map of 1528 showing Green Island ("isola verde"). (After Kretschmer's hand-copied reproduction.)

no doubt that the Illa Verde of the Catalan (if he were a Catalan) represents the Greenland of Adam of Bremen and the sagas.

GREEN ISLAND ON SIXTEENTH-CENTURY MAPS

To the same origin, in a remoter sense, we may ascribe the rather large Insula Viridis of Schöner, 1520,[5] which is brought down to a latitude between that of southern Ireland and that of northern Spain and something east of mid-ocean. It must seem that the map-maker had quite lost sight of any relation between this Latinized Green Island and the true Greenland of the northwest.

[4] Thormodus Torfaeus: Gronlandia Antiqua seu veteris Gronlandiae descriptio, Copenhagen, 1706; Tabula I, facing p. 20.

[5] Kretschmer, atlas, Pl. 13.

FIG. 14—Bishop Thorlâksson's map of Greenland 1606, showing Estotiland as a part of America. Cf. with Fig. 18. (From Torfaeus' "Gronlandia antiqua," Copenhagen, 1706, in the library of the American Geographical Society.)

This is even more obviously true of Nicolay's map of 1560[6] (Fig. 6), which carries Verde into the Newfoundland Banks, even nearer than his Brazil to a broken-up Newfoundland; and of Zaltieri's map of 1566,[7] which plants Verde rather close to "C. Ras" (Cape Race), with only a narrow strip of water between. These cartographers undoubtedly indicated American habitats for their little island; but they can have had no thought of con-

[6] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, Pl. 27.
[7] Kretschmer, atlas, Pl. 19, map 3.

fusing it with Greenland, which they well knew and which Zaltieri distinctly shows as Grutlandia. They would be far from admitting a common origin. Perhaps in most of such northern cases a conception like Coppo's of Greenland as an oceanic island is at the root of the derivation; but successive copyings, modifications, and shiftings may have altered the area, form, and location, while the clue was gradually lost and only the name remained—hardly as a reminder, for it is of too general descriptive application.

Various "Green Islands:" Shrinkage of the Name

There is, indeed, one instance of a Green Island with which Greenland can have had nothing whatever to do. Peter Martyr d'Anghiera's sketch map of 1511[8] shows a small tropical Isla Verde near Trinidad; it is apparently Tobago. Doubtless its luxuriance of vegetation prompted the name.

This may have happened in other instances of warm climates or even in temperate zones where grass and foliage grow freely; so that we in many cases cannot distinguish on the maps the Green Islands, real or fanciful, which acquired their name as a remote legacy of Eric's land from those which were called "green" simply because they were green. Both derivations may sometimes apply; but the islands of the far northwest bearing that name, like Coppo's island and the Catalan's Illa Verde, must naturally go into the former category.

As we have seen, Green Islands were scattered rather widely; but the name occurs most often in the sixteenth and seventeenth centuries in the middle or eastern part of the ocean to indicate a small island, having Mayda (Vlaenderen) for its rather distant consort. Desceliers indeed, in 1546[9] (Fig. 9), shows it in the same longitude as the tip of Labrador, but this is done by carrying Labrador too far eastward. St. Brandan's Island is a neighbor on his map. Ortelius, in 1570[10] (Fig. 10) and Mercator, in 1587,[11]

[8] A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, p. 67.
[9] Kretschmer, atlas, Pl. 17.
[10] A. E. Nordenskiöld, Facsimile-Atlas, Pl. 46.
[11] *Ibid.*, Pl. 47.

represent Y Verde west of Vlaenderen in the region north of the Azores. In the eighteenth century it still held its ground west of France in the eastern Atlantic as Isla Verde, Isla Verte, Ile Verte, Ilha Verde, and Green Island. By the early part of the nineteenth century it had, after its kind, dwindled to Green Rock —Brazil Island similarly becoming Brazil Rock—as dubious rocks became easier to believe in than dubious islands. Perhaps the well-known actual instances of Rockall and the Virgin Rocks may have prompted credence in other spears and knolls of the earth crust here and there reaching the surface.

The Hydrographic Office does not believe in any such Green Rock or Green Island but supplies, in a letter to the writer, a mariner's yarn which is not without interest and may be evidence for the rock as far as it goes.

"Captain Tulloch, of New Hampshire, states that an acquaintance of his, Captain Coombs, of the ship *Pallas*, of Bath, Maine, in keeping a lookout for Green Island actually saw it on a remarkably fine day when the sea was smooth. According to the story, he went out in his boat and examined it and found it to be a large rock covered with green moss. The rock did not seem much larger than a vessel floating bottom upward, and it was smooth all around. The summit was higher than a vessel's bottom would appear out of the water, being about twenty feet above the surface of the sea. Captain Coombs added that if the object had not been so high he would have thought it to be a capsized vessel. A sounding taken near this spot shows that a depth of 1,500 fathoms exists there."

So Greenland, misunderstood and carried southward, dwindles to what may be taken for a capsized vessel's hull, the existence of which is denied by those who best should know. Or, to take it the other way about, the traditions of Green Island, dwindling, prompted the mariner's fancy to develop a Green Rock; and Green Island is in numerous instances derived mainly, even if remotely, from Greenland, reinforced sometimes by implications of attractiveness.

Origin of the Name "Greenland" and Its Justification

There can be no doubt that the Down East sea captain, who was so quick to perceive green vegetation on his fancied Green Island, came nearer the true explanation of Greenland's name than the good prebendary of Bremen with his bluish-green Norsemen colored by the sea. It is pretty well understood that about 985 or 986 Eric Rauda (Eric the Red, or Ruddy), the first explorer and colonizer of this new region, applied the name at least partly as an advertisement of fertility and promising conditions for the encouragement of Icelandic colonists. This is the way Ari Frode (the Wise), the best informed man of Iceland, puts it in his surviving Libellus of the "Islendingabok" about a century later:[12]

> This country which is called Greenland was discovered and colonized from Iceland. Eric the Red was the name of the man, an inhabitant of Breidafirth, who went thither from here and settled at that place, which has since been called Ericsfirth. He gave a name to the country and called it Greenland and said that it must persuade men to go thither if it had a good name. They found there both east and west in the country the dwellings of men and fragments of boats and stone implements such that it might be perceived from these that that manner of people had been there who have inhabited Wineland and whom Greenlanders call Skraelings. And this when he set about the colonization of the country was fourteen or fifteen winters before the introduction of Christianity here in Iceland, according to what a certain man who himself accompanied Eric the Red thither informed Thorkell Gellison.

This last was an uncle of Ari, a man of liberal and inquiring mind and one of Ari's most valued sources of knowledge as to the affairs of earlier generations.

The passage has been often quoted, but that Eric was largely justified in his nomenclature is less generally known. Greenland to the intending colonists would naturally mean not the ice-enshrouded waste of the almost continental interior nor yet the forbidding cliffs of the eastern coast guarded by a nearly impassable floe-laden Arctic current, but the really habitable thousand-mile fringe of uncovered land along the southwestern shore, on

[12] Quoted by Nansen in his "In Northern Mists," Vol. 1, p. 260.

the average fifty miles wide and occasionally much wider. It was partly shut in by forbidding headlands and perverse currents, but feasible of access when the true course was disclosed. Some parts of this region were, and still are, green with grass and bright with summer flowers. Nansen, who certainly ought to know, declares that the Greenland sites chosen would have seemed more attractive than Iceland to an Icelander. Rink, who was connected with the Greenland government for a full generation, mentions certain places with special approval and regards life in most parts of the inhabited region quite contentedly.[13] Professor Hovgaard tells us:[14]

Icelandic Settlement

It was on this strip of land that the Icelanders settled at the end of the tenth century. Though barren on the outer shores and islands and on the hills, it is covered at the inner part of the fiords on the low level by a rich growth of grass together with stunted birch trees and various bushes, particularly willows. On the north side of the valleys crowberries (*Empetrum nigrum*) may be found. . .

Eric settled in Ericsfiord, the present Tunugdliarfik, at a place which he called Brattahlid, now Kagsiarsuk, in 985 or 986. Two distinct colonies were founded, the Eastern Settlement, extending from about Cape Farewell to a point well beyond Cape Desolation, comprising the whole of Julianehaab Bay and the coast past Ivigtut, and the Western Settlement, beginning about one hundred and seventy miles farther north at Lysufiord, [i.e. Agnafiord], the present Ameralikfiord, comprising the district of Godthaab.

The fiord next Ericsfiord in the Eastern Settlement was Einarsfiord, now Igalikofiord. These fiords were separated at their head by a low and narrow strip of land, the present Igaliko Isthmus. It was here, at Gardar, that the Althing of Greenland met, and here was also found the bishop's seat, established at the beginning of the twelfth century. There were as many as sixteen churches in Greenland, for almost every fiord had its own church on account of the long distances and difficult traveling between the fiords.

The unfamiliar localities above named may be followed by the aid of the accompanying map (Fig. 15) copied from Finnur

[13] Henry Rink: Danish Greenland, Its People and Its Products, London, 1877, pp. 306–312 and *passim*.

[14] William Hovgaard: The Voyages of the Norsemen to America (Scandinavian Monographs, Vol. 1), American-Scandinavian Foundation, New York, 1914, pp. 25 and 26.

Jónsson's maps,[15] which embody the results of the research of the best experts and scholars with the aid of relics on the ground and surviving records. It is apparent that from the first to last the heart of Greenland was about the low, fairly

FIG. 15—Map of the early Norse Western and Eastern Settlements of Greenland. Scale 1:6,400,000. (The inset below, 1:70,000,000, shows the relation of Norway, Iceland, and Greenland.)

fertile, favorable tract near the heads of the two fiords named for Eric and his friend, Einar, and not far from Eric's Greenland home. The Western Settlement was a comparatively small offshoot, with four churches only, yet it contrived to maintain existence for between three and four centuries, being at last

[15] Finnur Jónsson: Grönlands gamle Topografi efter Kilderne: Österbygden og Vesterbygden, *Meddelelser om Grönland*, Vol. 20 (text, pp. 267–329), Pls. 2 and 3, 1899.

obliterated, as is supposed, by the Eskimos. The main settlement was still more enduring, having a continuous record of nearly half a millennium, a history not surpassed in duration by some far more populous and powerful nations.

This seems marvelous, if it be true that the entire population never exceeded 2,000 souls, as Nansen and Hovgaard have

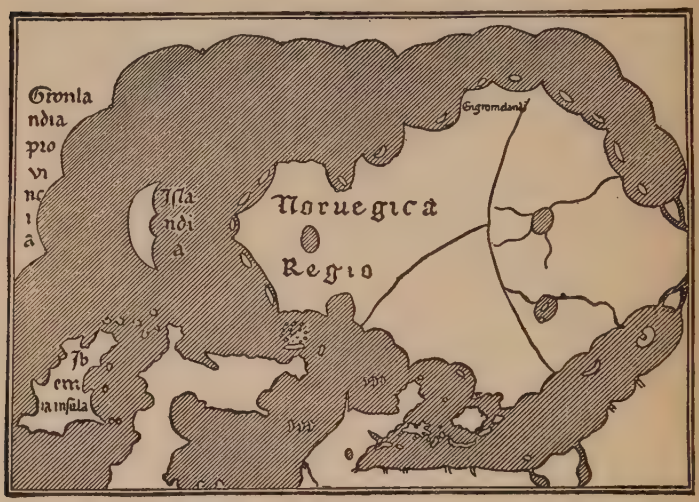

FIG. 16—Section of the Clavus map of 1427 showing Greenland continuous with Europe. (After Joseph Fischer's hand-copied reproduction.)

supposed. Rink, on the other hand, estimated the maximum at 10,000.[16] Some intermediate number would seem more likely than either extreme, if we may hazard a conjecture where doctors disagree. The prosperity of the colony, such as it was, seems to have been at its best in the eleventh and twelfth centuries but was never conspicuous enough to get an outline of Greenland into the maps until about the time of final extinction.

[16] *Op. cit.*, p. 27.

FIG. 77—Section of the world map of Donnus Nicolaus Germanus (after 1466) showing Greenland connected with Europe.
(After Joseph Fischer's photographic reproduction.)

Greenland as a Peninsula

We must remember, though, that during the earlier part of this period there were not many maps extant which included the Atlantic, and of these the greater number were more concerned with theological conceptions and figures of wonder than with the sober facts of geography, especially in remote places. About 1300 a remarkable series of navigators' portolan maps, revolutionizing this attitude, began to add to the delineation of the Mediterranean, which they had already developed with considerable minuteness, something definite of the outer European coasts, islands, and waters. Step by step they advanced into the unknown or little known, but perhaps none of them, before the fifteenth century, can be confidently relied on as indicating Greenland.

This remained for the Nancy map of Claudius Clavus (Schwartz), 1427[17] (Fig. 16). Greenland is, however, made distinctly continuous with Europe, being connected thereto by a long land bridge, far north of Iceland, in accordance with an hypothesis then prevailing. The second half of the same century saw this conception of Claudius Clavus greatly popularized. Divers maps[18] appeared, some showing Greenland as a prodigiously elongated peninsula of Europe, having its tip in the correct location (Fig. 17), while others ran up a perverse trapezoidal Greenland from the north coast of Norway.

Probably one or more of the former kind suggested in part the memorable Zeno map of 1558[19] (Fig. 19), professing to be a reproduction of a map prepared by the Zeni of a past generation and carelessly damaged by the final editor in boyhood. If not a total forgery, it is at least untrustworthy, as we shall see in

[17] A. E. Nordenskiöld, Facsimile-Atlas, p. 49. Also copied by Joseph Fischer: The Discoveries of the Norsemen in America, With Special Relation to Their Early Cartographical Representation, transl. by B. H. Soulsby, London, 1903, p. 70.

[18] Joseph Fischer, Pls. 1–8. See also the map of Henricus Martillus Germanus (1489) in E. G. Ravenstein: Martin Behaim, His Life and His Globe, London, 1908, p. 67. The name Greenland does not appear on the latter map, but the peninsula is there.

[19] Kretschmer, atlas, Pl. 4, map 4; better facsimile reproductions in the works by Major and Lucas cited in footnotes 1 and 2, Ch. IX.

Chapter IX, and the same is true of an accompanying narrative of experiences in Greenland about 1400.

Another map of somewhat later date, by Sigurdr Stefánsson, probably 1590[20] (Fig. 18), is a quite honest presentation of the traditional views of Icelanders at that time and is distinctly more modern than the Zeno map in the complete severance of Greenland from Europe and its union with the great western land mass which included Helluland, Markland, and Vinland, supposed to be divided by a fiord from "America of the Spaniards." Of course, that union with the Western continent is not precisely accurate and the eastward trend which he gives his great peninsula is still less so; but his map, often copied, remains a peculiarly interesting production.

Life of the Icelandic Colony

To hark back to Adam of Bremen, the charges of special cruelty and predatory attacks on seafarers in the middle of the eleventh century awaken some surprise. The life of the people seems simple and innocent enough, as disclosed by their relics and remnants, which have been unearthed with great care. As seal bones predominate in their refuse piles, this offshore supply must have been their greatest reliance for animal food; but they had also sheep, goats, and a small breed of cattle. They spun wool and wove it; they carved vessels of soapstone, sometimes with decoration; they milked cows and made butter; they exported sealskins, ropes of walrus hide, and walrus tusks; they paid tithes to the Pope in such commodities; they boiled seal fat and made seal tar; they gathered tree trunks as driftwood far

[20] Thormodus Torfaeus: Gronlandia Antiqua, seu veteris Gronlandiae descriptio, Copenhagen, 1706, Tabula II, after p. 20. Also reproduced by Gustav Storm: Studies on the Vineland Voyages, *Mêmoires Soc. Royale des Antiquaires du Nord* (Copenhagen), N. S., 1884–89, pp. 307–370 (map on p. 333); by Fridtjof Nansen: In Northern Mists, Vol. 2, p. 7; and by W. H. Babcock: Early Norse Visits to North America, *Smithsonian Misc. Colls.*, Vol. 59, No. 19, Washington, D. C., 1913, map facing p. 62; by Hovgaard, *op. cit.*, opp. p. 118. These are two versions, the one appearing in Torfaeus (1706), reproduced herewith (Fig. 18) and by Nansen, the other a copy of about 1670 belonging to Bishop Thordr Thorlâksson, now preserved in the Royal Library of Copenhagen (Old Collection, No. 2881, 4to), of Stefánsson's original map, which was lost. The earlier version is reproduced by Storm, Babcock, and Hovgaard.

up the coast and probably brought back cargoes of timber from Markland; they built substantial houses and churches, using huge stones in some cases. But they had to import grain, iron,

FIG. 18—Sigurdr Stefánsson's map of Greenland, 1590, showing the severance of Greenland from Europe and its union with the western land mass which includes Helluland, Markland, and Vinland. Cf. with Fig. 14. (From Torfaeus' "Gronlandia antiqua," Copenhagen, 1706, in the library of the American Geographical Society.)

and many other articles from Europe; and the infrequent visits of ships from Iceland, Norway, and elsewhere must have made a break in the monotony of their lives which they could ill afford to forego. One would expect them to be especially kind to such visitors.

On the other hand, the belligerent spirit which kept up the bloody feuds of Iceland would not quickly have lapsed from these transplanted Icelanders in their new home. Moreover, there were thralls among them and the irritations growing out of thralldom. Also, while much of their daily routine was quiet enough, they were subject to savage weather and perils of navigation, of the fisheries, of hunting far up the coast, where many of them maintained stations for that purpose at Krogfiordsheath and other points. Even in getting to Greenland Eric was able to carry through only about half of the ships that sailed with him, and Gudrid and Thorbiorn, coming later, incurred ample experiences of storm and danger. These wild elements of life would tend to enhance a certain recklessness; and the law must have been impotent to maintain order in remote fiords and headlands, even if it had sought to do so.

In the Floamanna Saga, dealing with events not long after the very first settlement, the thralls of Thorgils murder his young wife on the eastern coast, where they had all been cast ashore together. In another of the Greenland tales there is a bloody contention, freely involving homicide, over the claims of the church upon the contents of two ships which had come to grief. No doubt such instances might be multiplied; but in the main we may believe that the lives of the Greenlanders went orderly enough in common grooves of very primitive husbandry and fishing. Adam may have judged by reports of visitors with a grievance, narrated at second or third hand.

If Greenland had a long history, it was that of a few people in a remote region and could not present many salient features. The colony possessed at least one monastery and the beginning of a literature, including, it is said, the Lay of Atli, revealing a curious interest in the career of the great Hun Attila, on the part of a distant colonist hidden in Arctic mists and writing beside the glaciers. In art, as distinguished from literature, they seem to have made few advances, if any, beyond mere ornamental carving or designing on a plane hardly surpassing that of the Eskimos.

Explorations of Early Greenlanders

But in seamanship and exploration their achievements, considering their numbers and resources, were really wonderful. All experts agree that Eric's first exploration was daring, skillful, persistent, and exhaustive, according to the best modern standards, and that his selection of settlement sites was exceedingly judicious; in fact, could not have been improved upon. Then followed in less than twenty years the discovery of the American mainland by Eric's son Leif (or, as some say, by one Biarni, followed by Leif) and a series of other voyages, including Thorfinn Karlsefni's prolonged effort to colonize, involving the tracing of the American coast line from at least upper Labrador to some point south of Newfoundland. The precise lower limit is matter of dispute, but, according to the better opinion, may be found somewhere on the front of southern New England. These were followed in 1121 by the missionary journey, as it seems to have been, of Bishop Eric Gnupsson, who then sailed out of Greenland for Vinland, we do not know with what result. Subsequent communication with parts of the American continent was probably not uncommon, as has been inferred from the accidental arrival in 1347 of a ship which had sailed from Greenland to Markland and been storm-driven from the latter westward. It pursued its course to Norway.

In the opposite (northern) direction we know of at least two venturesome voyages up Baffin Bay, and, as the records have reached us almost by accident, we may naturally conjecture many more.

A British exploring expedition in 1824 acquired a small stone inscribed with runic characters near some beacons on an island north of Upernivik on the upper northwestern coast of Greenland. The original is lost, but a duplicate of it is preserved in the Copenhagen National Museum. Divers copies [21] have been published. The inscription is thought to date from about 1300, but, of course, may relate to a much earlier event. It has been

[21] Hovgaard, p. 39.

translated by various runologists, with differences in detail. As given by Professor Hovgaard, it reads:

Erling Sigvatsson and Bjarne Thordarson and Endride Oddson built this (or these) beacon(s) Saturday after "Gagnday" (April 25th) and cleared (the place) (or made the inscription) 1135 (?).

The year is reported with some uncertainty; and it must be owned that the body of the text offers several alternatives. Such a memorial would more naturally be put up by the men who built the beacons or those of about their time than by a later generation to commemorate the not vitally important doings of those who were dead and gone. The year 1300 seems a little late for venturing so far, as it was about the beginning of a period of decadence and less than forty years before the Western Settlement vanished altogether. The date 1135 would better accord with the climax of Norse strenuousness and Greenland adventure. Perhaps the runes were carved in the stone earlier than the runologists suppose. But, whether the original visit took place in the twelfth century or the fourteenth, and whether the stone denotes two Norse visits to this place or only one, it is still conclusive that some Greenlanders had explored well to the northward along the shore of Baffin Bay in the time of the old colony.

A more extensive exploration was undertaken in 1266 by the clergy, apparently of the Bishop's seat, since they traveled home to Gardar. It appears that certain men had been farther north than usual but reported no sign of previous occupancy by the Eskimos (who seem by this time to have awakened some concern among the Norsemen) except at the unusually broad reindeer-pasture land and hunting ground of Krogfiordsheath, a little below Disko Bay. This made a good starting point for the ship, which was thereupon sent "northward in order to explore the regions north of the farthest point which they had hitherto visited," apparently with a special view of getting more light on the whereabouts of the heathen and their line of approach. In these regards the adventure was barren; but the narrative of one of the priests is interesting so far as it goes:[22]

[22] Often quoted, e. g. by Hovgaard, p. 37.

. . . they sailed out from Krogfiordsheath, until they lost sight of the land. Then they had a south wind against them and darkness, and they had to let the ship go before the wind; but when the storm ceased and it cleared up again, they saw many islands and all kinds of game, both seals and whales and a great number of bears. They came right into the sea-bay and lost sight of all the land, both the southern coast and the glaciers; but south of them were also glaciers as far as they could see.

That was their farthest point. They then sailed southward, reaching Krogfiordsheath again and eventually Gardar. On the way they had noticed some abandoned Eskimo houses but no living Eskimos.

There is some attempt to indicate latitude by the way shadows fell in a boat. Also we are told, apparently meaning midsummer or a little later: "at midnight the sun was as high as at home in the settlement when it is in northwest." But speculations as to their course and distance have given varying results. Some think they may even have passed into Smith Sound; others that they may have crossed the Middle Water to the western shore of Baffin Bay, seeing south of them the glaciers of northeastern Baffin Land; others still that they did not get very far above Upernivik; but, whatever the exact limit, it seems to have been a notable bit of Arctic exploration, prosecuted rather at random and with scant resources.

The Eskimos

The Eskimos (Skraelings) are referred to in this account as if already known to the settlers, though uncertain as to their home quarters and mysterious in their coming and going. Probably there had been some contact, not wholly friendly, between outranging members of the two races. The Historia Norvegiae,[23] a manuscript of the same century discovered in Scotland, says:

Beyond the Greenlanders toward the north their hunters came across a kind of small people called Skraelings. When they are wounded alive their wound becomes white without issue of blood; but the blood scarcely ceases to stream out of them when they are dead.

[23] Pp. 69-124 in Gustav Storm: Monumenta historica Norvegiae, Christiania, 1880; reference on p. 76. In English, e. g. in Hovgaard, p. 167.

Whatever may be thought of this magical oddity of surgery, it at least seems to imply authentically some experiments in piercing or slashing the living. Whether such collision was a matter of the thirteenth century only or had first occurred in the twelfth or still earlier we cannot say. The Eskimo race was the ominous shadow of the Norse colonist from the beginning, though long unrecognized as a menace. Apparently there had been a temporary movement of these people down the western coast about the tenth century, withdrawing before the first white men appeared. After that for generations, perhaps centuries, the weaker heathen wisely kept out of sight, either beyond the water or at hunting grounds far up the Greenland coast. At last they moved nearer, and there was occasional contact while still the Norsemen were formidable. But by the fourteenth century Norse Greenland had begun to dwindle in power and population, with diminishing aid and reinforcement from Europe, and the danger drew nearer. Perhaps there was some special impulsion of the uncivilized people which resulted in the obliteration of the Western Norse Settlement, always relatively feeble. Some rumor of its need having reached the Eastern Settlement, an expedition of relief was dispatched about 1337, or perhaps a little later, accompanied by Ivar Bardsen, then or afterward steward of the Bishop, who tells the tale. Only a few stray cattle were found; presumably the colonists had been killed or carried away.

The ground thus lost could not be regained. On the contrary, we may suppose the Eskimos to be getting stronger and drawing nearer. In 1355 an expedition under Paul Knutson came out to reinforce the Norsemen; but it returned home in or before 1364 and can have made only a temporary lightening of the load. In 1379 there seems to have been an Eskimo attack, costing the Norsemen 18 of their few men. But peace may have reigned as a rule. At any rate, the ordinary functions of life went on, for it is of record that a young Icelander, visiting Greenland, was married by the Bishop at Gardar in 1409; and the last visit of the Norwegian *knorr*, or supply ship, occurred by way of Iceland in 1410.

After that nothing is certainly known. There are two papal letters at different periods of the century, based on very questionable hearsay information and indicating confusion and general falling away. There was even a futile effort to reopen communication in 1492. Probably by that time the Norsemen and Norse women were all dead or married to the Eskimos. That particular form of primitive heathendom seems to have absorbed them.

Greenland was to be rediscovered and repeopled in due season; but for the time being it had become in European knowledge only a half-forgotten figure on certain maps, sometimes given with fair accuracy of outline but sometimes also as an oceanic Green Island of only indirect relation to reality and passing its name on to little islands and even fancied rocks far at sea, which owned nothing in common with the far northern region except a part of its name.

CHAPTER VIII

MARKLAND, OTHERWISE NEWFOUNDLAND

The name Markland, meaning Forest Land, must be, in one language or another, among the oldest geographical designations known among men. Nothing could be more natural to even the most primitive people than to distinguish in this way any heavily overgrown region which especially challenged attention, perhaps as a refuge or as a barrier. Its appearance in any form of record was, of course, very much later. As to Atlantic regions, the earliest instance other than Norse may be the "Insula de Legname" of certain fourteenth- and fifteenth-century portolan charts,[1] evidently given by some Genoese or other Italian navigator to Madeira, the latter name being a translation of the former, substituted by the Portuguese[2] after their rediscovery. Thus we might say that this island was the original western Markland, but for the fact that certain Greenland Norsemen had affixed the name long before to a region much farther west.

First Norse Account, In Hauk's Book

The earliest manuscript of the first distinct account of the Norse Markland is included in the compilation known as Hauk's

[1] Portolano Laurenziano-Gaddiano, 1351; see Pl. 5 of facsimile in Portfolio 5 of Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–1886.

Catalan atlas, 1375, Pls. 11–14 in A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897.

Pareto map, 1455, Pl. 5 in atlas accompanying Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892 (our Fig. 21).

[2] M. A. P. d'Avezac: Notice des découvertes faites au Moyen-Age dans l'Océan Atlantique antérieurement aux grandes explorations portugaises du quinzième siècle, Paris, 1845, pp. 8–9. See "I de Madera" on Benincasa map, 1482, in Kretschmer, atlas, Pl. 4 (our Fig. 22).

Book,[3] from Hauk Erlendsson, for whom and partly by whom it was prepared, necessarily before his death in 1334, but probably after he was given a certain title in 1305. Perhaps 1330 may mark the time of its completion. Along with divers other documents, it copies from some unknown original the saga of Eric the Red, sometimes called the saga of Thorfinn Karlsefni, an ancestor of the compiler, whose adventures as an early explorer of northeastern North America constitute a conspicuous feature of the narrative. Some parts of the saga of Eric the Red as thus transcribed, especially toward its ending, cannot be much older than the time of transcription, but verses embedded in other parts have been identified as necessarily of the eleventh century; and the body of the tale is, for the greater part, manifestly archaic.

Another Account, In the Arna-Magnaean Manuscript

Beside Hauk's Book, there is a corroborative, independent, but almost identical manuscript copy of the saga—No. 557 of the Arna-Magnaean collection at Copenhagen.

This saga[4] tells us:

Thence they sailed away beyond the Bear Islands with northerly winds. They were out two *daegr* (days); then they discovered land and rowed thither in boats and explored the country and found there many flat stones (*hellur*) so large that two men could well spurn soles upon them [lie at full length upon them, sole to sole]. There were many Arctic foxes there. They gave a name to the land and called it Helluland.

Thence they sailed two *daegr* and bore away from the south toward the southeast and they found a wooded country and on it many animals; an island lay off the land toward the southeast; they killed a bear on this

[3] Fully set forth in A. M. Reeves: The Finding of Wineland the Good, London, 1890; summarized in W. H. Babcock: Early Norse Visits to North America, *Smithsonian Misc. Colls.*, Vol. 59, No. 19, Washington, D. C., 1913, pp. 64 *et seq.*

[4] Reeves, pp. 42 *et seq.* This work gives facsimiles of the pages in Hauk's Book dealing with the saga of Eric the Red, as well as the printed text in Icelandic, also a translation and notes distinguishing slight divergencies of Arna Magnæan MS. 557. I have followed the latter as slightly preferable and equally authentic and archaic in substance. William Hovgaard (The Voyages of the Norsemen to America, New York, 1914, p. 103) translates a little differently from Reeves in details but gives much the same purport.

and called it Biarney (Bear Island); but the country they called Markland (Forest Land).

When two *daegr* had elapsed they descried land, and they sailed off this land. There was a cape (*ness*) to which they came. They beat into the wind along this coast, having the land on the starboard (right) side. This was a bleak coast with long and sandy shores. They went ashore in boats and found the keel of a ship, so they called it Kjalarness (Keelness) there; they likewise gave a name to the strands and called them Furdustrandir (Wonder Strands) because they were so long to sail by. Then the country became indented with bays [or "fiord-cut," as Dr. Olson translates] and they steered their ships into a bay. . . The country round about was fair to look upon. . . There was tall grass there.

A very severe winter, however, drove them far southward to a warmer bay, or *hop*, where they dwelt for nearly a year among the characteristic products of Wineland; but at last withdrew after an onslaught of the Indians.

Probably it was from this narrative that Arna-Magnaean Manuscript 194, an ancient geographic miscellany, partly in Icelandic, partly in Latin, derived the following statement, generally ascribed [5] to Abbot Nicholas of Thingeyri who died in 1159.

Southward from Greenland is Helluland, then comes Markland; thence it is not far to Wineland the Good, which some men believe extends from Africa, and if this be so there is an open sea flowing between Wineland and Markland. It is said that Thorfinn Karlsefni hewed a "house-neat-timber" and then went to seek Wineland the Good, and came to where they believed this land to be, but they did not succeed in exploring it or in obtaining any of its products.[6]

The foregoing view of the relative positions of these regions along the coast is also illustrated in the well-known map[7] (Fig. 18) of Sigurdr Stefánsson (1570, or 1590, according to Storm) which was evidently based on surviving Icelandic traditions.

[5] For example by Joseph Fischer: The Discoveries of the Norsemen in America, With Special Relation to Their Early Cartographical Representation, transl. by B. H. Soulsby, London, 1903, pp. 7–8.

[6] Thus quoted in Reeves, p. 15. See also Hovgaard, p. 79, where the obscure phrase in quotation marks above is rendered "Karlsefni cut wood for a house ornament."

[7] Thormodus Torfaeus: Gronlandia Antiqua, seu veteris Gronlandiae descriptio, Copenhagen, 1706, Tabula II, after p. 20. See also footnote 20, Chapter VII.

Later Derivative Records

There is great verisimilitude in the Karlsefni narrative and these later derivative records. Their geography agrees convincingly with the facts of the actual coast line from north to south—namely, first a desolate region, cold, bare, and stony, the appropriate home of Arctic foxes; secondly, a game-haunted and very wild forest land, untempting to settlement, unhopeful for agriculture, but a hunter's paradise; thirdly, the warmer country to the south, well suited to cultivation and even producing spontaneously various kinds of edibles, notably the large fox grapes from which wine might be made. Helluland, the first, remains, as Labrador and perhaps Baffin Land, nearly unchanged excepting some uplift of the shore line; Markland has suffered great inroads of the lumberman's axe, but still as Newfoundland contains much heavy timber in its western part; Wineland, the third, has become the chief seat of American civilization east of the Appalachian Mountains. But in the time of the Norsemen and long afterward Newfoundland was a veritable Markland, a land of woods, down to its eastern front.[8] Its rediscoverers and earliest settlers found it so; and the maps of Cantino[9] and Canerio,[10] both attributed to 1502 and certainly not much later, exhibit the great island pictorially, under different names, as a mass of woodland with tall trees standing everywhere, apparently thus commemorating the most distinctive and conspicuous natural feature of the land.

Labrador as Markland

Some have urged that the southern part of Labrador may have been Markland; but its trees of any considerable size are to be found only by following up inlets far into the interior where

[8] Fridtjof Nansen: In Northern Mists: Arctic Exploration in Early Times, transl. by A. G. Chater, New York, 1911, 2 vols.: reference in Vol. 1, p. 323. Cf. R. Whitbourne: A Discourse and Discovery of Newfoundland, London, 1622.

[9] E. L. Stevenson: Maps Illustrating Early Discovery and Exploration in America, 1502–1530, Reproduced by Photography from the Original Manuscripts, text and 12 portfolios, New Brunswick, N. J., 1906; reference in Portfolio 1.

[10] E. L. Stevenson: Marine World Chart of Nicolo de Canerio Januensis, 1502 (circa), 2 vols. (text, 1908, and facsimile in portfolio, 1907), Amer. Geogr. Soc. and Hispanic Soc. of Amer., New York, 1907-08.

the Arctic current has less power to chill; there is nothing to indicate that conditions were very different then in this regard; and to judge by the narrative itself we must not conceive of the Norse visitors as pausing to explore deeply without allurement, but rather as hastening down the shore in quest of warmer regions and ampler pasturage for their stock which they carried with them, also of a good warm site for settlement, such as Leif had already reported. They were primarily colonists, not explorers of the disinterested or glory-seeking type. It was most natural to sail on; noting only what they could discern from the sea, or by a brief boat-landing. This would hardly give them the idea of a forest land in any part of hard-featured, ice-battered Labrador.

It is probable that, like some later navigators, they would not think of the Strait of Belle Isle as other than a fiord or inlet, after the pattern of the great Hamilton Inlet farther north; and if they guessed Markland to be an island it would be on quite different grounds—chiefly the natural tendency (which persisted until long after their time) to consider every western discovery insular; but they would at least be alive to the distinction between treelessness and an ample forest cover, and we see that in point of fact they did distinguish the regions on just this score.

Nova Scotia as Markland

Certainly this might involve the inclusion of Nova Scotia in the second of the three regions; and there have been many to champion this peninsula as distinctively Markland. But other features of Nova Scotia attracted the attention of Karlsefni's party and gave parts of that land an individuality distinguished from that of the forest country. The great cape Kjalarness, which seems to have been the northern horn of Cape Breton Island, and the exceedingly long strands, which may now be represented in part by the low front of Richmond County, are duly recorded, with no suggestion of their belonging to Markland, the region farther north. Also on the Stefánsson map above referred to (Fig. 18), the name Promontorium Vinlandiae is applied

to a long protuberance apparently meant for this part of Cape Breton Island, containing the counties of Victoria and Inverness, and the much earlier statement in Arna-Magnaean Manuscript 194 concerning the sea running in between Markland and Wineland seems to mark all south of Cabot Strait as belonging in some sense to the latter region. No doubt the name Markland may sometimes have been used with vagueness of limitation; but on the whole it seems most likely that Newfoundland was Markland almost exclusively. It seems practically certain, at the least, that the characteristics first noted in Newfoundland supplied the earlier regional name.

In many of the discussions of this exploring saga there has been too great a tendency to localize the territorial names, as though Wineland for example must denote a small area or short stretch of coast. Professor Hovgaard has even suggested that there may have been two Winelands—Leif's Wineland being much farther south than Karlsefni's, the name in each case standing for some one site or place and the territory immediately about it. This does not accord well with one of the notes on the Stefánsson map, which gives Wineland an extension as far as a fiord dividing it from "the America of the Spaniard." That may be read as meaning Chesapeake Bay and must at any rate be taken to suggest great extension for this region, since the Promontorium Vinlandiae, as already stated, obviously marks its upper end. Markland need not be conceived as of equal size, for in truth it represents at most only the wild and wooded interval between the hopelessly void and barren north and the great habitable, comfortable, and fruitful region stretching far below; but so much of parallelism holds as will forbid us to anchor the name to any one locality on the Newfoundland shore. Doubtless the long sea front of the great island as a whole is entitled to the name.

Intercourse between Greenland and Markland

No doubt it is surprising, in view of the deep impression which Markland obviously made on the Norsemen from near-by treeless

Greenland and Iceland, to find so few subsequent references to the name or indications of a knowledge of the region. There is a well-known and often cited instance recorded in Icelandic annals—in one instance nearly contemporary—of a small Greenland vessel storm-driven to Iceland in 1347, after having visited Markland, the latter name being presented in a matter-of-course way, much as though it were Ireland or the Orkneys. This has sometimes been taken as evidence of a regular timber traffic between Greenland and Markland during the preceding three centuries and more. It shows at least that acquaintance with the more southwestern country had been kept really alive thus long, and that it was not a half-mythical figure on the frontier of knowledge, to be doubtfully sought for, but territory that one might visit without claiming the reward of new and daring exploration or causing any extreme surprise. What Markland had to offer was so decidedly what Greenland needed, and the repetition of Karlsefni's voyage thus far was at all times so feasible, that one must suppose the trips to and fro were not wholly intermitted between 1003 and 1347. Only they have left no clear and unquestionable trace.

Perhaps the nearest approach thereto is a fifteenth-century Catalan map[11] (Fig. 7) preserved in the Ambrosian library in Milan, which as we have seen in Chapter IV, presents Greenland (Illa Verde) as a great elongated rectangle of land in northern waters, having a concave southern end. Below this, beyond a narrow interval of water, appears a large round island, the direction certainly calling for Labrador or Newfoundland, probably the latter. The minimizing of the distance between these land masses may indicate some report of the ease with which the crossing was effected. At any rate, unless we are prepared to set aside the testimony of the map altogether as mere fancy work, we must acknowledge that some one had a

[11] A. E. Nordenskiöld: Bidrag till nordens äldsta kartografi, Stockholm, 1892, Pl. 5. Also (reduced) in Nansen: In Northern Mists, Vol. 2, p. 280, and in T. J. Westropp: Brasil and the Legendary Islands of the North Atlantic: Their History and Fable (*Proc. Royal Irish Acad.*, Vol. 30, Section C, 1912–13, pp. 223–260), Pl. 20, facing p. 260.

general impression of land in mass south or southwest of Greenland and reasonably accessible therefrom.

Brazil Island in the Place of Markland

The name Brazil given to this island on the map and its disk-like form link it to the long series, already discussed, of "Brazil islands," approximately in the latitude of Newfoundland, on the medieval maps, beginning with that of Dalorto of 1325[12] (Fig. 4). Usually, as in this last instance, they have the circular form—sometimes, however, being annular, with an island-studded lake or gulf inside, and sometimes being divided into two parts by a curved channel. Usually, too, the station of this Brazil is pretty near southern Ireland, off the Blaskets, but sometimes it is carried out into mid-Atlantic, and in the sixteenth-century maps of Nicolay[13] (1560; Fig. 6) and Zaltieri[14] (1566) it is taken clear across to the Banks of Newfoundland or a little nearer inshore. From various mutually corroborative indications, I have been impressed with the belief that it is probably a record of some early crossing of the Atlantic from Ireland; but whatever the explanation, Brazil Island remains one of the most interesting of map phenomena. Its name was somehow passed along to Terceira of the Azores, where there is still a Mt. Brazil, and long thereafter to the largest of South American countries.

Its appearance near Greenland and as a substitute for Markland is not easily accounted for. The matter is indeed complicated on this fifteenth-century map by the appearance of a second Brazil (of the channeled type) in the middle of the Atlantic. It may be that the cartographer was familiar with this form and

[12] Alberto Maghaghi: La carta nautica costruita nel 1325 da Angelino Dalorto, with facsimile, Florence, 1898 (published on the occasion of the Third Italian Geographical Congress). Cf. also: *idem:* Il mappamondo del genovese Angellinus de Dalorto (1325): Contributo alla storia della cartografia mediovale, *Atti del Terzo Congr. Geogr. Italiano, tenuto in Firenze dal 12 al 17 Aprile, 1898*, Florence, 1899, Vol. 2, pp. 506–543; and *idem:* Angellinus de Dalorco (*sic*), cartografo italiano della prima metà del secolo XIV, *Riv. Geogr. Italiana*, Vol. 4, 1897, pp. 282–294 and 361–369.

[13] A. E. Nordenskiöld: Periplus, Pl. 27.

[14] Kretschmer, atlas, Pl. 19, map 3.

kind of presentation in older maps and did not feel warranted in giving up *that* "Brazil;" but had received convincing information of lands southwest or south of Greenland, with some suggestion of Brazil as a name traditionally associated with such discoveries, and so drew and named it. Undoubtedly the map is the work of a man well acquainted with the first disk form of Brazil and the later channeled or divided form, beside having some knowledge of later discoveries in Greenland and beyond.

There is a parallel to the two Brazils of his map in the two series of Azores on that of Bianco (1448).[15] The latter cartographer retained the original Italian-discovered series, inaccurately aligned north and south, but showed also farther afield the islands of Portuguese rediscovery, properly slanted northwestward, omitting only Flores and Corvo, which the rediscoverers had not yet found or at least had not yet brought to his notice. Another map of about the same period makes the same double showing—certainly a curious compromise between conservatism and progressiveness.

The Zeno Narrative

There is perhaps no other news of Markland before it became Newfoundland, unless we may put some glimmer of faith in the much-discussed Zeno narrative[16] (Ch. IX), which embodies the tale of an Orkney islander wrecked on the shore of Estotiland (perhaps the name was first written Escociland—Scotland) a little before the opening of the fifteenth century. He professed to have found there a people having some of the rudiments of civilization and carrying on trade with Greenland, but ignorant of the mariner's compass. The picture given is not incredible and perhaps receives some support from the really notable works

[15] Theobald Fischer, Portfolio II, Pl. 3.

[16] R. H. Major, transl. and edit.: The Voyages of the Venetian Brothers, Nicolò and Antonio Zeno, to the Northern Seas, in the XIVth Century, etc., *Hakluyt Soc. Publs.*, 1st Ser., Vol. 50, London, 1873; and F. W. Lucas: The Annals of the Voyages of the Brothers Nicolò and Antonio Zeno in the North Atlantic, etc., London, 1898—representing opposite sides of the discussion.

known to have been executed by the Beothuks[17] of Newfoundland in their later and feebler, though not quite their latest days—such as extensive deer fences, to give their hunters the utmost benefit from the annual migrations. Granted a certain infusion of Norse blood, or even without it, there is perhaps nothing stated of the Escocilanders which may not have been true. As to the name, it is no more strange than Nova Scotia, which still occupies the coast just to the south, and it may have been applied in the same spirit.

Very early in the history of European colonization this Markland—which by its outjutting position was accused of being a New-found-land, again and again with varying designations during the ill-recorded centuries—took under the latter name the position, which it still holds, of the very earliest of the English colonies of the New World.

[17] George Cartwright: Journal of Transactions and Events During a Residence of Nearly Sixteen Years on the Coast of Labrador, 3 vols., Newark (Engl.), 1792. Republished as "Captain Cartwright and His Labrador Journal," with an introduction by W. T. Grenfell, Boston. 1911; reference on pp. 16–25.

CHAPTER IX

ESTOTILAND AND THE OTHER ISLANDS OF ZENO

Some of the well-known mythical or dubious map islands of the North Atlantic make their entry into cartography very early indeed, apparently as the contribution or record of otherwise forgotten voyages, though we cannot say with certainty precisely when or how; others, long afterward, were the products of mirage, ocean-surface phenomena, or mariners' fancies working under the suggestion of saintly or demoniacal legends amid the hazes and perils of little-known seas, the precise time of their origin remaining uncertain. As a rule the latter class were less persistent on the maps and are geographically rather unimportant.

In two cases, however, Estotiland and Drogio, we know the first appearance of their names before the public, which is very probably the first use of them among men. They derive a special interest from being located in America and from an asserted journey by Europeans to them more than a hundred years before the first voyage of Columbus. The map which first shows them also displays divers other Atlantic islands, either of unusual name or unusual location and area, not conforming at all to the insular tracts of the North Atlantic basin as we know them now. The fantastic exhibition as a whole had an immediate, long-continuing, and considerable—almost revolutionary—effect on the map-making of the world.

The Zeno Volume

In the year 1558 a volume was printed by Marcolino at Venice, purporting to give an account of "The Discovery of the Islands of Frislanda, Eslanda, Engroneland, Estotiland, and Icaria made by two brothers of the Zeno family, Messire Nicolò the Chevalier and Messire Antonio."[1] Some of the islands named in the book

[1] R. H. Major, transl. and edit.: The Voyages of the Venetian Brothers, Nicolò and Antonio Zeno, to the Northern Seas, in the XIVth Century, etc., *Hakluyt Soc. Publs.*, 1st Ser., Vol. 50, London, 1873.

are omitted from this title; and the word "Discovery" must have been used with willful inexactness, for Greenland (Engroneland) had been in Norse occupancy for centuries, and Shetland (Eslanda, Estland, or Estiland) was as positively, though not as familiarly, known as Great Britain. But the indication of aim and scope was sufficient.

The name of the author, or, as he calls himself, "the compiler," was not given; but he is generally recognized to have been the Nicolò Zeno of a younger generation, a man of local prominence and a member of the dominant Council of Ten of the Venetian republic. In 1561 he edited for Ruscelli's edition of Ptolemy, a subsequent edition of the map (Fig. 19) which is the volume's most conspicuous feature. His account of the Zeno book's origin seems to have been accepted generally and promptly among his own people, as also the general accuracy of its geography. But, as Lucas remarks, "An adverse critic of a member of the Council of Ten, in Venice, in the sixteenth century, would have been a remarkably bold, not to say foolhardy, man."[2] However, there are shelters and places of seclusion from even the most arbitrary power; and it would seem that the eminent younger Nicolò would hardly have the effrontery to challenge the world in matters then easily susceptible of disproof concerning his still more eminent ancestor and kinsman. Surely they must have had some notable experiences in northern islands on the reports of which he could rely in a general way, however erroneous or fraudulent in some important features, though then first advancing the transatlantic claim to discovery.

Moreover, the dread of the Council could not overshadow distant geographers like Mercator and Ortelius, whose maps of 1569 and 1570[3] (cf. Fig. 10) almost eagerly embody the most dis-

[2] F. W. Lucas: The Annals of the Voyages of the Brothers Nicolò and Antonio Zeno in the North Atlantic, etc., London, 1898, p. 152.

[3] *Ibid.*, Pls. 13 (Mercator's large-scale world map, 1569) and 14 (Ortelius' large-scale world map, 1570). Ortelius' small-scale world map, 1570, of a section of which our Fig. 10 is a reproduction, is facsimiled in A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, Pl. 46.

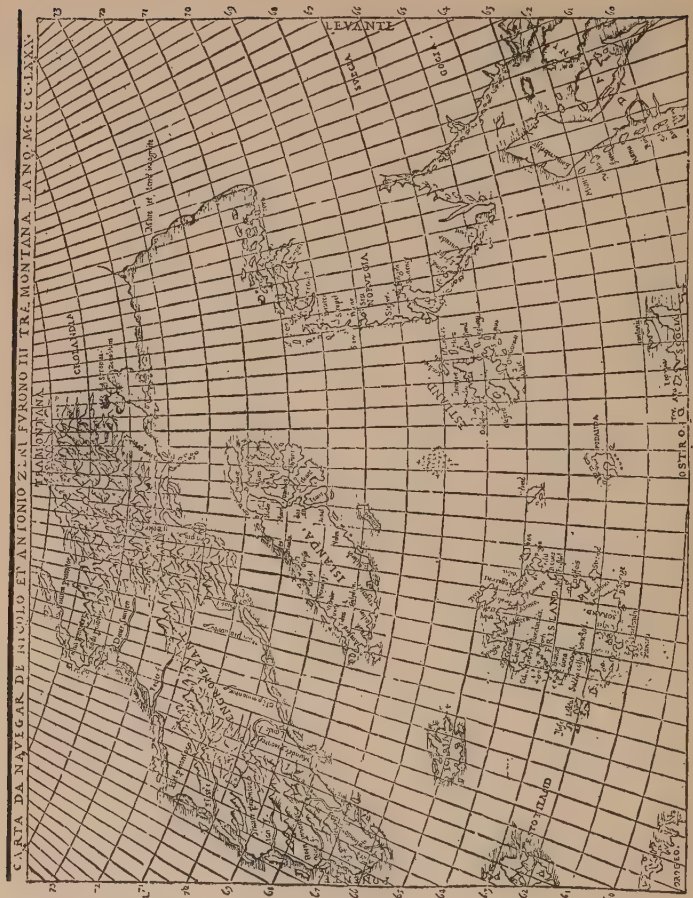

FIG. 19—The map of the northern regions by the Zeno brothers, 1558, showing Frisland, Estotiland, Icaria, and Drogio. (After Lucas' photographic facsimile.)

tinctive Zeno additions, giving them the greatest currency and implying some sense of the general probability of discoveries by members of that family. Estotiland and Drogio are very distinctly shown, the former apparently as Newfoundland united to

Labrador, the latter as a smaller and more southern island which may well be Cape Breton Island, pushed a bit offshore, but still not very far from the mainland.

There has been much discussion as to whether the book should be regarded as wholly a forgery or not, as to the location of these regions, and as to the derivation and meaning of the names; but all agree that Estotiland and Drogio were not known before 1558.

Nicolò the compiler reports: "The sailing chart which I find, I still have among our family antiquities and, though it is rotten with age, I have succeeded with it tolerably well." Just what this success involved is an interesting question. It has been understood by his most reasonable advocates to include conjectural restoration, such as the deficiencies of rottenness seemed to call for, and somewhat more.

Nicolò the younger avers, further, that his ancestor Antonio wrote a book recording his northern observations and many facts about Greenland, but that the compiler as a boy had thoughtlessly destroyed the book with other papers and that the Zeno narrative as he gives it is made up from fragmentary letters of the elder Nicolò to Antonio and of the latter to their brother, Carlo, remaining in Venice; which letters by good fortune happened to survive.

Nobody except the younger Nicolò is asserted to have seen the map, the letters, or any of the original documents; though his parents, it would seem, must have been custodian of them before him, and he would surely have been likely to display such precious evidences to some one after awakening to their importance. But those were less critical and exacting times than the present, and conceivably it may have been felt that any corroboration would be superfluous. Yet the fact remains that we are not informed of any means of testing the accuracy of restoration or even of demonstrating that there was anything to restore.

First Use of the Names "Estotiland" and "Drogio"

The two names "Estotiland" and "Drogio" are supplied by a story within a story, an alleged yarn of a fisherman, reporting

to his island ruler, whom the elder Zeno served. Obviously, the chances of lapse from truth are multiplied. Either the later Nicolò or his ancestor of more than a century and a half before may have wholly invented or more or less transformed it; or the first narrator may have created his tale out of no real happenings or have so distorted it by mistake or willful imposture as to render it wholly unreliable. In its general outlines it is by no means impossible; but neither would it have been very difficult to compose such a yarn out of nothing but fancy and the American information at the command of the younger Nicolò. It comes to us through the medium of an alleged letter of his ancestor Antonio, written home to the latter's brother Carlo near the end of the fifteenth century. With some slight compression, the narrative runs as follows:

Six and twenty years ago four fishing boats put out to sea, and, encountering a heavy storm, were driven over the sea in utter helplessness for many days; when at length, the tempest abating, they discovered an island called Estotiland, lying to the westwards above one thousand miles from Frislanda. One of the boats was wrecked, and six men that were in it were taken by the inhabitants, and brought into a fair and populous city, where the king of the place sent for many interpreters, but there were none could be found that understood the language of the fishermen, except one that spoke Latin, and who had also been cast by chance upon the same island. . . They . . . remained five years on the island, and learned the language. One of them in particular visited different parts of the island, and reports that it is a very rich country, abounding in all good things. It is a little smaller than Iceland, but more fertile; in the middle of it is a very high mountain, in which rise four rivers which water the whole country.

The inhabitants are a very intelligent people, and possess all the arts like ourselves; and it is to be believed that in time past they have had intercourse with our people, for he said that he saw Latin books in the king's library, which they at this present time do not understand. They have their own language and letters. They have all kinds of metals, but especially they abound with gold. Their foreign intercourse is with Greenland, whence they import furs, brimstone and pitch. . . They have woods of immense extent. They make their buildings with walls, and there are many towns and villages. They make small boats and sail them, but they have not the loadstone, nor do they know the north by the compass. For this reason these fishermen were held in great estimation,

insomuch that the king sent them with twelve boats to the southwards to a country which they call Drogio; but in their voyage they had such contrary weather that they were in fear for their lives.

. . . They were taken into the country and the greater number of them were eaten by the savages. . . But as that fisherman and his remaining companions were able to show them the way of taking fish with nets, their lives were saved. . . . As this man's fame spread . . . there was a neighboring chief who was very anxious to have him with him . . . he made war on the chief with whom the fisherman then was, and . . . at length overcame him, and so the fisherman was sent over to him with the rest of his company. During the space of thirteen years that he dwelt in those parts, he says that he was sent in this manner to more than five-and-twenty chiefs . . . wandering up and down . . . he became acquainted with almost all those parts. He says that it is a very great country, and, as it were, a new world; the people are very rude and uncultivated, for they all go naked and suffer cruelly from the cold, nor have they the sense to clothe themselves with the skins of the animals which they take in hunting. They have no kind of metal. They live by hunting, and carry lances of wood, sharpened at the point. They have bows, the strings of which are made of beasts' skins. They are very fierce, and have deadly fights amongst each other, and eat one another's flesh. . . The farther you go southwestwards, however, the more refinement you meet with, because the climate is more temperate, and accordingly there they have cities and temples dedicated to their idols, in which they sacrifice men and afterwards eat them.

His fellow captives having decided to remain where they were, he bade them farewell, and made his escape through the woods in the direction of Drogio, . . . where he spent three years. [One day] some boats had arrived. He went down to the seaside, and . . . found they had come from Estotiland. [They took him aboard as interpreter.] He afterwards traded in their company to such good purpose that he became very rich, and, fitting out a vessel of his own, returned to Frislanda.[4]

Geographical Implication of the Narrative

In spite of plain geographical indications in the above recital, Estotiland has been located by some random or oversubtle conjectures in the strangest and most widely scattered places, including even parts of the British Isles. But a region a thousand miles west of the Faroes or any other Atlantic islands can be nothing but American, and the restriction of its commerce to

[4] Major, pp. 19–24.

Greenland, apparently as a next neighbor, points very clearly (as Estotiland) to that outjutting elbow of North America, which culminates in Cape Race, south of Greenland and thrust out toward Europe. The clear definition of it in the tale as an island, largely explored by the narrator, approximating the size of Iceland but more fertile, with mountainous interior, great forests (such as gave the name Markland to Norse tradition), and rivers flowing several ways, clearly indicates Newfoundland. The Zeno map accords with this, and most of the later maps accept that identification—though often with a great extension of territory. Thus a French map in the United States National Museum,[5] having 1668 for an entry of discovery and perhaps dating from about 1700, presents the whole region southeast of Hudson Bay in an inscription as called Estotiland by the Danes, Nouvelle Bretagne (New Britain) by the English, Canada Septentrionale by the French, and Labrador by the Spanish; but here again Labrador and Newfoundland may have been chiefly in mind.

Conjectures as to the Derivation of "Estotiland"

Evidently this map-maker attributed the name Estotiland to the Norsemen of Greenland on the faith of the fisherman's story, for no other Scandinavians can be supposed to have fastened a name on the region in question. But, barring the last syllable, which is a common affix, the name has an Italian sound rather than Scandinavian. "East-out-land" has been suggested as a derivation, but why in this instance should either Norse or Italian borrow an English name? Another suggestion requires the use of the first three syllables of the motto "esto fidelis usque ad mortem" making up "Estofi," with the appendant "land." But there seems no historic link of positive connection, and the letter "f" would not readily change into "t." Perhaps "Escotiland" or "Escociland" (Scotland) is a more likely conjecture (first made

[5] Recently on exhibition, but not accessible at present.

by Beauvois[6]), since "c" often resembles "t" in older forms of handwriting and might readily be misunderstood. The name may have been applied in the same spirit which has long affixed "Scotia" (Nova Scotia) to a lower part of the same Atlantic coast. That the name was ever really thus applied by the Norsemen seems very unlikely; but Nicolò Zeno may have used it to help out his fisherman's yarn as readily as he certainly adapted "King Daedalus of Scotland" to help out his more mythical account of Icaria. Or "Estotiland" may be a modification of Estilanda or Esthlanda, a form sometimes taken by Shetland, for example on the map of Prunes, 1553[7] (Fig. 12). In casting about for a name,it would be an economy of effort on the part of Zeno or the fisherman to utilize one that was familiar. But I do not know that this derivation from Estiland has ever before been suggested.

The Estotilanders

Ortelius, in crediting the discovery of the New World to the Norsemen, seems to identify Estotiland with Vinland.[8] He was so far right that the fisherman's account of the people of Estotiland was evidently composed by some one acquainted with the mistaken ideal of Vinland, or Wineland, which pictured it a permanent Norse offshoot from Greenland, perhaps slowly deteriorating but still possessed of a city and library, letters and the ordinary useful arts of at least a primitive northern white civilization, trading regularly with Greenland though archaic enough to lack the mariner's compass, and in most respects fairly on a par with the Icelanders, Faroese, Shetlanders, or Orkneymen of the fourteenth to the sixteenth century. We know that such Estotilanders did not exist; that the ground was occupied by Beothuk Indians, possibly slightly influenced by Greenlanders' timber-gathering visits,

[6] Eugène Beauvois: La découverte du nouveau monde par les irlandais, Nancy, 1877, p. 90.

[7] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 4, map 5.

[8] A. M. Reeves: The finding of Wineland the Good, London, 1890, pp. 94-95.

with Eskimos for neighbors on one side and Micmac Algonquins on the other; and that none of these could be thought even so far advanced in culture as some natives farther down the coast. But it is interesting to get the point of view of the narrator or reporter.

Drogio

The tale is of a prolonged residence among these alleged relatively advanced Estotiland people, followed by a much longer wandering sojourn, mostly as a captive, in a great "new world" southwest of it and a final escape. Drogio (also spelled "Drogeo" and "Droceo" on some maps) was the region through which this continental territory was entered. It is plainly an island, to judge by the maps; but, according to the narrative, it should be close inshore, since no mention is made of water being crossed by the neighboring chief, who made war on the first captors and thus acquired the fishermen. This accords curiously with the facts as to Cape Breton Island, which is barely cut off by the Gut of Canso, being easily reached by any incursion from the mainland. It also lies southward from Newfoundland (Estotiland), but sailing vessels would ordinarily be required to get to it across the broad Cabot Strait, where the conditions of storm and shipwreck might well be supplied. It is, indeed, surprising, since the description of inhabitants and conditions is so far from the truth, that the geography of Estotiland and Drogio should be given so much more accurately than in some carefully prepared and useful maps of the same period, for example Nicolay's of 1560[9] (Fig. 6) and Zaltieri's of 1566,[10] both of which represent Newfoundland as broken up into an archipelago; and the same may be said of Gastaldi's map illustrating Ramusio.[11]

[9] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, Pl. 27.

[10] Kretschmer, atlas, Pl. 19, map 3.

[11] Justin Winsor: Cartier to Frontenac: Geographical Discovery in the Interior of North America in Its Historical Relations, 1534–1700, with Full Cartographical Illustrations from Contemporary Sources, Boston, 1894, pp. 60–61.

It has been generally surmised that the name Drogio represents some native word, but there is a lack of evidence and a difficulty in identification. Lucas thinks it may be a corruption of Boca del Drago,[12] a strait between Trinidad and the mainland South America; but this seems a far-fetched and unsupported conjecture. All the other island names used by Zeno are of European origin, and Drogio by its sound and orthography suggests Italy. Perhaps the best guess we can make would point to the Italian words "deroga," or "dirogare" as supplying in disparagement a form afterward contracted to Drogio; for the latter island, lower in latitude and elevation, was also, according to the narrative, inferior in the status of its population and might well be spoken of derogatively. We have seen that a fairly high culture is imputed to Estotiland; whereas the natives of Drogio were sunk in mere cannibal savagery. Notwithstanding the plain implication of the story as to the comparative nearness of the two regions and the concurrent testimony of the Zeno map, Drogio has been located by some theorizers at divers different points of our coast line from Canada to Florida and even as far afield as Ireland—which is perhaps a shade more extravagant than Lucas's South American derivation of the name.

Discrepancies in the Narrative of the Fisherman

There is this to be said for the last-mentioned speculation and some others, that the statements concerning the mainland natives are plainly prompted by Spanish accounts of certain naked and cannibalistic denizens of the tropics, when not due to the experience of Cortés and his companions among the teocallis and ceremonial sacrifices of the Aztecs. That any one starting from Nova Scotia or thereabout could have reached southern or at least central Mexico and returned alone must have struck even Nicolò Zeno the younger as incredible, if he had any conception of the distances and difficulties involved. But probably he believed the area of temple building to extend farther northward than it actually did and had little notion of the great waste

[12] Lucas, p. 124.

of intervening interior. Besides, it is not explicitly stated that the fisherman saw these things; and to have gone far enough to encounter a rumor of them, though a very improbable, would not be a quite impossible, feat.

As regards the characteristics of the ruder inhabitants who nearly devoured him, fought for him, and two dozen times shifted ownership of him from chief to chief, he must surely be understood to speak from personal observation; but there is a conspicuous failure of corroboration from internal evidence. We know a good deal about the Indian tribes of northeastern America of a time not very much later, and hardly a distinctive characteristic which he gives will fit what we know. To say that the Algonquian tribes and their neighbors had not sense to clothe themselves with the skins of the animals they killed is itself arrant nonsense; to assert that they habitually ate each other like Caribs is an imputation without foundation. The total absence of metals among them is as untrue as the great abundance of gold in Estotiland, for many of them had at least a little copper. They did not live wholly by hunting—at least south of Nova Scotia—but were partly agricultural, raising Indian corn and various vegetables. They did not depend, in hunting, on wooden lances with sharpened points, though some backward and feeble far-southern insular tribes are reported to have done so. They were expert fishermen with weirs and nets and inducted many of the white settlers into their secrets, so naturally would not extravagantly need nor prize the counsel of a white specialist in the same line, though he might have some things to teach them. Finally, the really distinctive features of the Indian race in these latitudes, such as bark canoes and the peculiarities of maize cultivation, are not mentioned at all.

In view of these discrepancies it is not easy to believe that the fisherman ever visited America or at any rate ever journeyed far inland. The nature of the errors rather points to Nicolò Zeno "the compiler" as their author, since they embody observations made elsewhere, which the fisherman would not be aware of and which had not been made in his time, so far as now known.

The landing by shipwreck on Estotiland in the last quarter of the fourteenth century, though a startling feature, cannot be called impossible or perhaps even wildly improbable; and, once on this side of the Atlantic at that point, some accident might take him across to Cape Breton Island, whence he well might travel or be carried a little farther. This sequence of events may be said to hang well together, and the geographic accuracy as to Newfoundland and Cape Breton Island may be taken diffidently as establishing a faint presumption that something like it really occurred. But farther than this we cannot go, for all other indications are adverse; and, even if we credit the incongruities to one of the Zeni and suppose them to take the place of forgotten or disregarded observations of the original adventurer, we are without these last, and it is only substituting a vacuum for incorrectness. Perhaps the only thing that remains to be said in favor of the story is that if it were wholly the invention of Nicolò Zeno it would have been natural and quite easy for him to make his ancestor the discoverer, instead of an unnamed and insignificant fisherman.

The Zeno Narrative Itself

For the story above considered enters the Zeno narrative only as the incentive to a voyage of exploration which failed of its aim; and it is nowhere alleged, unless in the title, that either of the Zeno brothers discovered anything American. Each of them, it says, visited Greenland, but that needed no discovery. Briefly summarized, the Zeno story is that the elder Nicolò, being an adventurous wanderer like many of his countrymen, was shipwrecked about 1380 on the island of Frisland and taken into the service of Zichmni, lord of the Orkneys, then prosecuting the conquest of the former region. Zeno took part in the warfare of this chieftain, chiefly against the King of Norway his feudal lord, also in his various navigations, including a visit to Greenland, of which this elder Nicolò writes quite fully to his brother Antonio in Venice, urging the latter to join him in Zichmni's service. Antonio did so, after many adventures and hardships

and incidental delay, and served with him four years, when Nicolò died, and Antonio succeeded to his honors and emoluments for thirteen years longer. About 1400 the fisherman returned with his story of transatlantic experience, and Earl Zichmni resolved to attempt to reach Estotiland in person. Instead, he was storm-driven to Icaria, whatever that may be, and again visited Greenland, exploring parts of its coast. Antonio Zeno went with him and sailed home separately, under orders, slightly missing his course and first reaching Porlanda (Pomona) of the Orkneys and Neome (Fair Island) midway between the Orkneys and Shetland. He knew then that he was "beyond Iceland" (i. e. to the eastward) and readily found his way to Frisland. He was never allowed to return to Venice but wrote his brother Carlo what he had seen and heard, including the fisherman's story.

R. H. Major's Study of the Zeno Narrative

Major endeavored to end the long-standing discussion as to the authenticity of the map and the narrative of voyages by an elaborate and ingenious study, on the hypothesis of an honestly intended reproduction, the various additions, interpolations, and changes being due partly to misunderstandings by the original Zeno brothers, partly to injuries accidentally inflicted by the compiler and inaccurately repaired, and partly to extraneous matter of illustration and ornament, which the later Nicolò Zeno had not the self-control to withhold. This method of exposition leads to some curious experiences of prodigious exaggeration backed by a veritable genius for transforming words. Thus when we read that Zichmni, ruling in Porlanda and conqueror of Frisland, made successful war on his feudal superior, the King of Norway, it means, according to Major, that Henry St. Clair (or Sinclair), who was given the Earldom of the Orkneys in 1379, had a skirmish with a forgotten claimant to a part of his territory. A little later in the narrative a warm spring (108° maximum) on an island of a fiord in the inhabited part of Greenland, beside which some ruins are found, evolves a monas-

tery and monk-ruled village of dome-topped houses on the slope of a volcanic mountain far up the impossible ice-bound eastern coast, with house-warming, cooking, and hothouse gardening by subterranean heat and a continual commerce maintained with northern Europe—though all this had never been heard of before. It is true that Major was handicapped by a belief, formerly prevalent, that the eastern coast of Greenland was the site of the Eastern Settlement of the Norsemen, though in modern times that coast is subjected to conditions which make life hardly practicable; whereas it is now conclusively established that both of the Norse settlements were on the relatively pleasant southwestern coast, one settlement being more easterly and the other more westerly. But at the best such interpretations run the gauntlet of the reader's involuntary skepticism. It is often easier to discard the statements altogether.

The Work of F. W. Lucas

Lucas, writing some years afterward, with the benefit of recently discovered maps and information, has chosen this destructive alternative for nearly the whole Zeno narration: denying that Nicolò Zeno had any map of a former generation to restore; styling his own keenly critical and exhaustive production "an indictment," and branding the book under consideration as a forgery throughout—with, necessarily, some true things in it. He has gone far toward making good his case. Some things not fully accounted for suggest that there may have been a basis of genuine material, a nucleus of truth; but it must have been very slight.

Major and his preservative school relied chiefly on three points of coincidence: a fairly good description of that most unusual boat, the kayak of the Eskimos; the hot water of the monastery already mentioned; and the general geography of Greenland, which is shown more accurately than on many maps of the sixteenth century and later. But Lucas points out that the history of Olaus Magnus, or other northern sources, might have supplied the kayak to Zeno the younger. This may seem rather

far-fetched in view of the wide interval between Italy and Scandinavia; but intercourse was regular in 1558, and Zeno was a man of ample information and intelligence, using material from many sources and having his attention especially directed to the north.

A Monastery in the Arctic

The Zeno account of the monastery of St. Thomas is very extended and particular, going into details of daily life, artificial agriculture, and traffic. It is the sublimation of cultivation in hothouse conditions (of volcanic origin), located far up within the Arctic Circle at a particularly repellent point, where no man has ever lived or perhaps will live hereafter. Lucas tries to explain the account—which is interesting in its own way with a certain wild and preposterous plausibility—by reminiscences of a favored Scandinavian fortress, the gardens of which were hardly ever frozen, enjoying "all the advantages which any fortunate abode of mortals could demand and obtain from the powers above."[13] But this is manifestly vague, a general picture of balminess and delightfulness, far removed from a specific account of roasting food by subterranean heat, warming garden beds to the forcing point by pipes naturally supplied, and carrying on an extensive commerce from the polar regions by the aid of a tame volcano. Certainly the warm spring of southwestern Greenland is not much more to the point; but neither fortress gardens nor flowing water should be needed to stimulate a lively fancy in creating rather obvious marvels. Nicolò knew of volcanoes in Iceland (as well as Italy), may well have surmised their activity in Greenland, and would be only one of many who have amused themselves with speculations as to what might be accomplished by tapping the great reservoir of heat and energy below us. It is not necessary to find a precise earlier parallel, to be sure that there is no corroboration for his tale of ancestral voyages in such fancies.

[13] Lucas, p. 74.

The Zeno Map

A glance at the Zeno map (Fig. 19) discloses a good approximation to the general outline, trend, and taper of Greenland, with certain features which imply information. For a long time it was thought that no earlier source existed from which this could have been drawn by Zeno the compiler. But of later years other fifteenth-century maps showing Greenland have been discovered in various libraries, notably four by Nordenskiöld,[14] out of which or out of others like them Zeno could certainly have gleaned all that he needed for judicious copying. In particular the maps of Donnus Nicolaus Germanus (1466 to 1474, or a little later; e. g. Fig. 17), elaborated from the map of Claudius Clavus (1427; Fig. 16), seem to supply the chief features of the Zeno exhibition.[15] Sharing an error common to Clavus and all successors of his school, Zeno connected Greenland to Europe. He also represented its eastern coast as habitable at the extreme upper end. It is true that a visitor to the real surviving Greenland settlement about Ericsfiord probably would not learn the facts about these matters, so that his misinformation is no disproof of the visits of the older Zeni to that country. On the other hand, it would be difficult to point to any convincing evidence that either of them was ever there. Kohl suggests[16] that the fisherman's story may be a mere reflection of the general American knowledge of Greenlanders, and this might call for the presence of one of the Zeni in Greenland to hear the story. But, if the Norse of Greenland knew anything about Newfoundland or Labrador, they could hardly have credited and passed along these word pictures of cities, libraries, and kings. The only thing like internal corroboration is in the geography of Estotiland and Drogio.

[14] A. E. Nordenskiöld, Periplus, text maps 34 and 35, on pp. 85 and 87, and Pl. 32; *idem:* Facsimile-Atlas, Pl. 30. The first three maps are also reproduced in *idem:* Bidrag till Nordens äldsta Kartografi, Stockholm, 1892, Pls. 3, 1, 2.

[15] Joseph Fischer: The Discoveries of the Norsemen in America with Special Relation to Their Early Cartographical Representation, transl. by B. H. Soulsby, London, 1903, pp. 71 and 72 and Pls. 1-6.

[16] J. G. Kohl: A History of the Discovery of the East Coast of North America, Particularly the Coast of Maine, from the Northmen in 990 to the Charter of Gilbert in 1578 (Documentary History of the State of Maine, Vol. 1), *Colls. Maine Hist. Soc.*, 2d Ser., Portland, 1869, p. 105.

As Nicolò Zeno followed the disciples of Claudius Clavus in outlining Greenland, so he took for his guide Mattheus Prunes' map of 1553[17] in dealing with the more eastern islands. Podanda or Porlanda (Pomona, the main island of the Orkneys) and Neome (Fair Island) are in both (Figs. 19 and 12). Prunes displaces these islands to a position west, instead of south, of southern Shetland (Estiland or Esthlanda), and Zeno simply carries them both still farther west, while moving them southward; but his Neome is still in the latitude of the lower end of Shetland. Long before the time of either of them, the Faroe Islands had been shown as one territory—see the Ysferi (Faroe Islands) of the eleventh-century map of the Cottonian MS. in the British Museum, reproduced by Santarem.[18] The main islands are in fact barely severed from each other by a thread of water.

Frisland

It was, and is, so common to use "land" as a final syllable for island names (witness Iceland, Shetland, and the rest) that "Ferisland" would easily be derived from the form of the name last given and would be as readily contracted into "Frisland." We find the latter (Frislanda), indeed, on the map of Cantino (1502)[19] and in the life of Columbus ascribed to his son Ferdinand.[20] There seems no doubt of its very early use for a northern island or islands; apparently primarily for the Faroe group, often blended as one island.

[17] Kretschmer, atlas, Pl. 4, map 5.

[18] [M. F.] Santarem: Atlas composé de mappemondes, de portulans, et de cartes hydrographiques et historiques depuis le VIe jusqu'au XVIIe siècle . . . devant servir de ,preuves à l'histoire de la cosmographie et de la cartographie pendant le Moyen Age . . . , Paris, 1842–53, Pl. 9 (Quaritch's notation).

[19] E. L. Stevenson: Maps Illustrating Early Discovery and Exploration in America, 1502–1530, Reproduced by Photography from the Original Manuscripts, text and 12 portfolios, New Brunswick, N. J., 1906; reference in Portfolio 1.

[20] Ferdinand Columbus: The History of the Life and Actions of Adm. Christopher Columbus, and of His Discovery of the West-Indies, Call'd the New World, Now in Possession of His Catholic Majesty. Written by His Own Son, transl. from the Italian and contained in "A Collection of Voyages and Travels, Some Now First Printed from Original Manuscripts, Others Now First Published in English," by Awnsham Churchill and John Churchill (6 vols., London, 1732), Vol. 2, pp. 501–628; reference on p. 507.

But there seems to have been some confusion in men's minds between Iceland and Frisland as northern fishing centers and neighbors of like conditions. Thus the portolan atlas known as Egerton MS. 2803, contains two maps[21] (one shown in Fig. 8) naming Iceland "Fislanda," and the notable Catalan map of about 1480[22] (Fig. 7), first copied by Nordenskiöld, which shows Greenland as an elongated rectangular "Illa Verde" and Brazil in the place later given to Estotiland, also depicts a large insular "Fixlanda," which is surely Iceland, if any faith may be put in general outline and the arrangement of islets offshore. Prunes (1553; Fig. 12) substantially reproduces it, with the same name and apparently the same meaning. Zeno (Fig. 19) follows him closely in area and aspect but draws also an elongated Iceland to the northward, the latter island trending southwestward in imitation of Greenland and seeming to derive its geography therefrom. This version of Iceland was probably suggested by one of the Nicolaus Germanus maps above referred to.

Thus Zeno has two great islands, Frisland and Iceland, the former being several times larger than Shetland and many times larger than Orkney. His Frisland gets its name from the Faroes, its area and outline from Iceland; it is located south of Iceland, where there never was anything but waste water. No such large island, distinct from Iceland, ever existed at the north. Certainly, as shown, it is a mythical island indeed.

Major stoutly argued that any derelictions of the map are to be explained as the defects of age and rottenness, unskillfully cobbled by a later hand. This sounds reasonable to one who has seen how the changes of time deface these old memorials and how easily outlines and much more may be misread. But in point of fact the map as we have it answers to the narrative singularly well. Any blurs or lacunae which needed restoration must have occurred in very fortunate places. Iceland, Shetland,

[21] E. L. Stevenson: Atlas of Portolan Charts: Facsimile of Manuscript in British Museum, *Publs. Hispanic Soc. of Amer. No. 81*, New York, 1911, folios 1b and 8b.

[22] A. E. Nordenskiöld: Bidrag till Nordens äldsta Kartografi, Stockholm, 1892, Pl. 5.

Greenland, Scotland, Estotiland, and Drogio are all not very far from where they should be. The Orkneys and Fair Island, if too far west in fact, are only far enough to suit the tale, for when Antonio sails eastward he comes to them and knows he has passed east of Iceland, a reflection more likely to occur if the interval were rather small than if it were very great.

Icaria

Again, when Earl Zichmni and Antonio Zeno with their little flotilla, fired by the fisherman's American experiences, strike westward from Frisland for Estotiland they, indeed, do not reach that goal but do attain by accident the mysterious Icaria and find themselves where Greenland can be and is reached without much difficulty. Now, on the map (Fig. 19), Icaria, about the size of Shetland, is the most westerly of all the islands not distinctly American. Draw a straight line from Iceland to Estotiland and another from the center of Frisland to Cape Hwarf near the lower end of Greenland, and Icaria lies at the intersection. Granting the rest of the story, it is shown where they might very well have stumbled upon it in trying to go farther west.

Of course, it is not there; nothing ever was there except an ample expanse of sea. Where Zeno got the idea of Icaria is not known—except as an appended and unimportant myth from the Aegean; it certainly was not supplied by the facts of the North Atlantic. Probably the initial "I" stands for island as usual, and "Caria" is a not impossible transformation of either "Kerry" (preferred by Major) or "Kilda"—the latter more likely, for southern Ireland was continually visited by Italian traders, whereas St. Kilda lay off the trade routes rather far away in the mists and myths of the ocean and might be a fairer field for exaggeration and shifting of place. But, with every allowance, it is hard to see how this small ultra-Hebridean rock pile could become a large island territory just short of America. Perhaps it is as well to treat Icaria as merely the unprovoked creation of the romantic brain of the younger Zeno.

Influence of Imaginary Cartography

It may be true that the elder Zeno brothers served for a time under some northern island ruler, whose name the later Nicolò Zeno read and copied as the impossible Zichmni; that they then visited various countries and islands, possibly including the surviving but dwindling Greenland settlement; that one of them heard in general outline the adventures of a fisherman or minor mariner cast away at two points of the American coast; and that a futile attempt was thereupon made by their patron to explore the same regions. Every one of these admissions lacks adequate confirmation and is very dubious; yet they are all possible. But it is not possible that a map made about 1400 could bear at almost all points the plain marks of copying with slight changes from maps of the late fifteenth and sixteenth centuries; and, since the narrative so well fits the map, the two as we have them must stand or fall together.

Either Nicolò Zeno of 1558 invented the whole matter, building up his imposture by the aid of maps and information already existent and accessible, or he actually had some sort of old sketch map and fragments of letters and has recast them with more modern aids quite at his convenience, leaving no certain trace of the original outlines or statements. It comes to much the same thing in either case.

Also in either case his unscrupulous and misleading achievements in imaginary cartography remain as historic facts. For a century or more he supplied the maps of the world with several new great islands; he shifted others widely into new positions; he adorned other regions with new names that were loath to depart; and he presented a story of pre-Columbian discovery of America which was long accepted as true and is not wholly discarded even yet.

CHAPTER X

ANTILLIA AND THE ANTILLES

There are two names still in common use for American regions, which long antedate Columbus and most likely commemorate achievements of earlier explorers. They are Brazil and the Antilles. The former is earlier on the maps and records; but the case for Antillia, as an American pre-Columbian map item, is in some respects less complex and more obvious.

Antillia

A good many decades before the New World became known as such, Antillia was recognized as a legitimate geographical feature. A comparatively late and generally familiar instance of such mention occurs in Toscanelli's letter of 1474 to Columbus,[1] recommending this island as a convenient resting point on the sea route to Cathay. Its authenticity has been questioned, notably by the venerable and learned Henry Vignaud,[2] but at least some one wrote it and in it reflected the viewpoint of the time.

Nordenskiöld in his elaborate and invaluable "Periplus" declares: "As the mention of this large island, the name of which was afterwards given to the Antilles, in the portolanos of the fourteenth century, is probably owing to some vessel being storm-driven across the Atlantic (as, according to Behaim, happened to a Spanish vessel in 1414), those maps on which this island is

[1] E. g. in [Henry Harrisse]: Bibliotheca Americana Vetustissima: Additions, Paris, 1872, pp. xvi–xviii; and Ferdinand Columbus: The History of the Life and Actions of Adm. Christopher Columbus, and of His Discovery of the West-Indies, Call'd the New World, Now in Possession of His Catholic Majesty. Written by His Own Son, transl. from the Italian and contained in "A Collection of Voyages and Travels, Some Now First Printed from Original Manuscripts, Others Now First Published in English," by Awnsham Churchill and John Churchill (6 vols., London, 1732), Vol. 2, pp. 501–628; reference on p. 512.

[2] Henry Vignaud: The Columbian Tradition on the Discovery of America and of the Part Played Therein by the Astronomer Toscanelli, Oxford, 1920, pp. 9–10; and *idem:* Le vrai Christophe Colomb et la légende, Paris, 1921, Ch. IX.

marked must be reckoned as Americana."[3] The word "fourteenth" is probably an accidental substitute for "fifteenth." The reference to Behaim undoubtedly means the often-quoted inscription on his globe of 1492, which avers that "1414 a ship from Spain got nighest it without being endangered."[4] This seems to record an approach rather than an actual landing. But at least it was evidently believed that Antillia had been nearly reached in that year by a vessel sailing from the Iberian Peninsula. Little distinction would then have been made between Spain and Portugal in such a reference by a non-Iberian.

Ruysch's map of 1508 is a little more vague in its Antillia inscription as to the time of this adventure.[5] He says it was discovered by the Spaniards long ago; but perhaps this means a rediscovery, for he also chronicles the refuge sought there by King Roderick in the eighth century.

Peter Martyr's Identification of Antillia

Both of these representations show Antillia far in the ocean dissociated from any other land, but in the work of Peter Martyr d'Anghiera, contemporary and historian of Columbus, writing before 1511, we have an explicit identification as part of a well-known group or archipelago. He has been narrating the discovery of Cuba and Hispaniola and proceeds:

> Turning, therefore, the sterns of his ships toward the east, he assumed that he had found Ophir, whither Solomon's ships sailed for gold, but, the descriptions of the cosmographers well considered, it seemeth that both these and the other islands adjoining are the islands of Antillia.[6]

Perhaps he meant delineations, like those we have yet to consider, and not descriptions in words; or writings concerning these

[3] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, p. 177.

[4] E. G. Ravenstein: Martin Behaim: His Life and His Globe, London, 1908, p. 77.

[5] A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, p. 65 and Pl. 32.

[6] Pietro Martyr d'Anghiera: The Decades of the New World or West India, transl. by Rycharde Eden, London, 1597, First Decade, p. 6. For a modern edition of this work see "De Orbe Novo: The Eight Decades of Peter Martyr D'Anghera," transl. by F. A. MacNutt, 2 vols., New York, 1912.

islands may then have been extant which have since vanished as completely as the celebrated map of Toscanelli.

Among "the other islands adjoining" we may be sure he included that island of Beimini, or Bimini (no other than Florida), a part of which, thus marked, occurs in his accompanying map and has the distinction of owning the fabled fountain of youth and luring Ponce de Leon into romantic but futile adventure. Perhaps only one other map gives it the name Bimini; but its insular character is plain on divers maps (made before men learned better), with varying areas and under different names.

Other Identifications

Peter Martyr was not alone in his identification of the "islands of Antillia." Canerio's map,[7] attributed to 1502, names the large West India group "Antilhas del Rey de Castella," though giving the name Isabella to the chief island; and another map of about the same date (anonymous)[8] gives them the collective title of Antilie, though calling the Queen of the Antilles Cuba, as now. A later map,[9] probably about 1518, varies the first form slightly to "Atilhas [i. e. Antilhas] de Castela" and shows also "Tera Bimini." This is the second Bimini map above referred to.

It is true that the name Antillia, often slightly modified, was not restricted to this use but occasionally was applied in other quarters. Beside Behaim's globe and Ruysch's map already mentioned, a Catalan map of the fifteenth century (obviously earlier than the knowledge of the Portuguese rediscovery of Flores and

[7] E. L. Stevenson: Marine World Chart of Nicolo de Canerio Januensis, 1502 (circa), 2 vols. (text, 1908, and facsimile in portfolio, 1907), Amer. Geogr. Soc. and Hispanic Soc. of Amer., New York, 1907–08.

[8] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; see atlas, Pl. 8, map 2.

[9] Friedrich Kunstmann: Ueber einige der ältesten Karten Amerikas, pp. 125–151 in his "Die Entdeckung Amerikas, nach den ältesten Quellen geschichtlich dargestellt," with an atlas: Atlas zur Entdeckungsgeschichte Amerikas, aus Handschriften der K. Hof- und Staats-Bibliothek, der K. Universitaet und des Hauptconservatoriums der K. B. Armee herausgegeben von Friedrich Kunstmann, Karl von Spruner, Georg M. Thomas, Royal Bavarian Academy of Sciences, Munich, 1859; reference on Pl. 4 of atlas.

Corvo)[10] presents a duplicate delineation of most of the Azores, giving the supposed additional islands a quite correct slant northwestward and individual names selected impartially from divers sources. One of these is Attiaela, recalling the doubtful "Atilae" of the warning-figure inscription on the map of the Pizigani of 1367[11] (Fig. 2), which may have suggested it, being applied in the same or a neighboring region. The islands remain mysterious, perhaps merely registering a free range of fancy at divers periods.

An Antillia of the Mainland

Again, at a much later time, when the exploration of the South American coast line had proceeded far enough to demonstrate the existence of a continent, some one speculated, it would seem, concerning an Antillia of the mainland. One of the maps[12] in the portolan atlas in the British Museum known as Egerton MS. 2803 bears the word "Antiglia" running from north to south at a considerable distance west of the mouth of the Amazon, apparently about where would now be the southeastern part of Venezuela. Also, the world map[13] in the same atlas (Fig. 8) bears "Antiglia" as a South American name, in this instance moved farther westward to the region of eastern Ecuador and neighboring territory.

But these aberrant applications of the name Antillia in its various forms were mostly late in time and probably all suggested by some novel geographical disclosures. The standard identification, as disclosed on the maps discussed below, at least from Beccario's of 1435 to Benincasa's of 1482, was with a great group of western islands; as was Peter Martyr's, much later.

[10] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 13 (Facsimile del planisfero del mondo conosciuto, in lingua catalana, del xv secolo), Pl. 5.

[11] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . . Paris, [1842–62], Pl. X, 1. In Santarem's atlas (cf. Ch. IX, footnote 18), Pl. 31, the name is interpreted as "Atullis."

[12] E. L. Stevenson: Atlas of Portolan Charts: Facsimile of Manuscript in British Museum, *Publs. Hispanic Soc. of Amer. No. 81*, New York, 1911, folio 9a.

[13] *Ibid.*, folio 1b.

The Origin of the Name

Naturally the origin of the word has been found a fascinating problem. Ever since Formaleoni,[14] near the close of the eighteenth century, called attention to the delineation of Antillia in Bianco's map of 1436, discussed below, as indicating some knowledge of America, there have been those to urge the claims of the suppositional lost Atlantis instead. The two island names certainly begin with "A" and utilize "t," "l," and "i" about equally; but "Atlantis" comes so easily out of "Atlas," and the great mountain chain marches so conspicuously down to the sea in all early maps, that the derivation of the former may be called obvious; whereas you cannot readily or naturally turn "Atlas" into "Antillia," and there is no evidence that any one ever did so. As to geographical items, both have been located in the great western sea; but that is true of many other lands, real or fanciful. Something has been made of the elongated quadrilateral form of Antillia; but Humboldt points out[15] that in the description transmitted by Plato this outline is ascribed to a particular district in Atlantis, not to the great island as a whole, and that, even if it could be understood in the latter sense, there seems no reason why a fragment surviving the great cataclysm should repeat the configuration of Atlantis as a whole. There seems a total lack of any direct evidence, or any weighty inferential evidence, of the derivation of Antillia from Atlantis.

Humboldt's Hypothesis

Humboldt, in rejecting this hypothesis, advanced another, which is picturesque and ingenious but hardly better supported.[16] His choice is "Al-tin," Arabic for "the dragon." Undoubtedly

[14] Vicenzio Formaleoni: Description de deux cartes anciennes tirées de la Bibliothèque de St. Marc à Venise, pp. 91–168 of the same author's "Essai sur la marine ancienne des Vénitiens," transl. by the Chevalier d'Henin, Venice, 1788; reference on p. 122 and Pl. III.

[15] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent, et des progrès de l'astronomie nautique aux quinzième et seizième siècles, 5 vols., Paris, 1836–39; reference in Vol. 2, p. 193. The other mentions of Humboldt in this chapter refer to the same volume, pp. 178–211, except allusions to his correspondence with the Weimar librarian.

[16] *Ibid.*, p. 211.

Arabs navigated to some extent some parts of the great Sea of Darkness, and these monsters were among its generally credited terrors. The hardly decipherable inscriptions in the neighborhood of an island on the map of the Pizigani of 1367[17] (Fig. 2), as we have seen (Ch. VI), seem to cite Arabic experience in proof of perils from *fulvos* (krakens) rising from the depths of the sea, coupling dragons with them in the same legend and illustrating it by a picture of a kraken dragging one seaman overboard from a ship in distress, while a dragon high overhead flies away with another. It is even true that Arabic tradition established a dragon on at least one island as a horrible oppression, long ago happily ended, and that another island (perhaps more than one) was known as the Island of the Dragon. But in all this there is nothing to connect dragons with Antillia, and that most hideous medieval fancy is out of all congruity with the fair and almost holy repute of this island as the place of refuge of the last Christian ante-Moorish monarch of Spain in the hour of his despair and as the new home of the seven Portuguese bishops with their following.

In passing, we may note that Antela, the version of the Laon globe hereinafter referred to, is identical with the name of that Lake Antela of northwestern Spain which is the source of the river Limia, fabled to be no other than Lethe, so that Roman soldiers drew back from it, fearing the waters of oblivion. But as yet no one has taken up the cause of Spanish Antela as the origin of the island's name. Probably it is a mere matter of coincidence.

Humboldt admits that Antillia may be readily resolved into two Portuguese words, *ante* and *illa* (island). He even cites several parallel cases, of which Anti-bacchus will serve as an example. But he objects that such compound names have been used in comparison with other islands, not with a continent. In the present instance, however, the comparison would be with Portugal, not with all Europe, and the other member of it would

[17] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . ., Paris, [1842–62], Pl. X, 1.

be a map island which, he says, is as long as Portugal and seems curiously to borrow and copy Portugal's general form and is arranged opposite to that kingdom far beyond the Azores across a great expanse of sea. It must be remembered that *illa* is the old form of *ilha*, found in many maps, that either would naturally be pronounced "illia," and that you cannot say "anteillia" or "anti-illia" at all rapidly without turning it almost exactly into Antillia. The "island out before," or the "opposite island," would be the natural interpretation. The latter seems preferable. Notwithstanding the great importance which must always be attached to any opinion of Humboldt's, there really seems no need to let fancy range far afield when an obvious explanation faces us in the word itself and on the maps.

The Weimar Map

Nordenskiöld, practically applying his test of the presence of Antillia and arranging his materials in chronological order, heads his list of "The Oldest Maps of the New Hemisphere"[18] with the anonymous map preserved in the Grand Ducal library in Weimar and credited to 1424.[19] But it seems that this map does not deserve that position, for it is not entitled to the date; Humboldt, inspecting the original, made out certain fragments of words and the Roman characters for that year on a band running from south to north between the Azores and Antillia; also, in more modern ink, the date 1424 on the margin. Whatever the explanation, he was convinced of error by subsequent correspondence with the Weimar librarian and admitted that it was probably the work of Conde Freducci not earlier than 1481. Apart from all considerations of workmanship and map outlines, the use of "insule" instead of "insulle" and of "brandani" instead of "brandany" in the inscription concerning the Madeiras marks the map as almost certainly belonging to the last quarter, not the first quarter, of the fifteenth century.

[18] Periplus, p. 177.

[19] W. H. Babcock: Indications of Visits of White Men to America before Columbus, *Proc. 19th Internatl. Congr. of Americanists, Held at Washington, Dec. 27–31, 1915*, [Smithsonian Institution,] Washington, D. C., 1917, map on p. 476.

The Beccario Map of 1426

The second map on Nordenskiöld's New World list is "Becharius 1426," a Latinization of the surname of Battista Beccario and at least not so weird a transformation as Humboldt's "Beclario or Bedrazio." Apparently the year of this map has not been doubted, but there is a lack of first-hand evidence that the original contains Antillia. No reproduction of this map had been published prior to the writer's paper on St. Brendan's Islands in the July, 1919, *Geographical Review*, nor, so far as is known, has its extreme western part been copied in any way. The section there reproduced, and herewith reprinted only slightly curtailed (Fig. 3), is one of several sent me in response to arrangements, made before the war, for a photograph of the map, but by some mistake the very portion that would have been conclusive was omitted, and all attempts to remedy the error have failed. But, if there were any inscription concerning recently discovered islands located as in his later map, some part of it at least would probably be seen on what I have; and for this and other reasons I do not believe that Antillia is delineated or named on the Beccario map of 1426.

The Beccario Map of 1435

The addition to fifteenth-century geography of a great group of large western islands roughly corresponding to a part of the West Indies and Florida rests mainly on the testimony of the following maps now to be discussed: Beccario 1435, Bianco 1436, Pareto 1455, Roselli 1468, Benincasa 1482, and the anonymous Weimar map probably by Freducci and dating somewhere after 1481. Of these the most complete as well as the earliest is Beccario's[20] (Fig. 20). He gives the islands the collective title of "Insulle a novo rep'te" (newly reported islands), which

[20] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates).

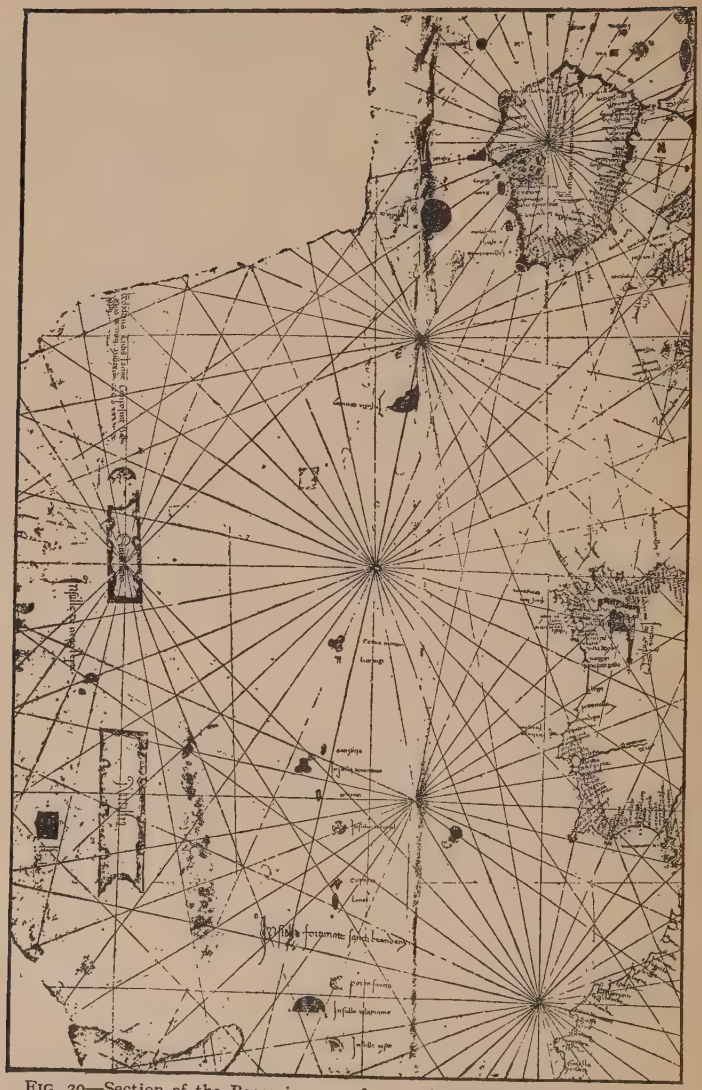

FIG. 20—Section of the Beccario map of 1435 showing the four islands of the Antilles, St. Brendan's Islands, Daculi, and others. (After Uzielli's photographic facsimile.)

may refer to the discovery recorded by Behaim for 1414 or to some more recent experience. The interval would not be much greater than that between the first landing of Columbus and the narrative of Peter Martyr beginning with equivalent words. It is likely, however, that some lost map or maps preceded Beccario's, for the artificially regular outlines of his islands, though in accord with the fashion of cartography in his time, seem rather out of keeping with a first appearance. The type had somehow fixed itself with curious minuteness and was repeated faithfully by his successors. In spite of these impossibly symmetrical details and some discrepancies as to individual direction of elongation and latitude, the fact remains that in the Atlantic there is no such great group except the Antilles and that the general correspondence is too surprising to be explained by mere accident or conjecture. Surely some mariner had visited Cuba and some of its neighbors before 1435.

This map of Beccario had been somewhat neglected, with misreading of the names, before it was taken in hand by the Italian Geographical Society and reproduced very carefully by photolithography. As regards the island names in particular, this eliminated some misunderstanding and confusion and made their meaning plain. Thus rendered, the map affords a convenient standard for the others, which, indeed, differ from it very little as to these "Islands of Antillia."

The Four Islands of the Antilles on the Beccario Map

This group, or more properly series—for three of them are strung out in a line—comprises the four islands Antillia, Reylla, Salvagio, and I in Mar. All these names have meaning, easy to render.

Antillia

The largest and most southerly, Antillia, the "opposite island," which I take to be no other than Cuba, is shown as an elongated, very much conventionalized parallelogram, extending from the latitude of Morocco a little south of the Strait of Gibraltar to

that of northern Portugal. As Humboldt says, it is about a third as wide as it is long; and in this respect it is singularly even throughout its length. In its eastern front there are four bays, and three in its western. The intervals on each side are pretty nearly equal, and each bay is of a three-lobed form resembling an ill-divided clover leaf. In the lower end there is a broader and larger bay nearly triangular. The artificial exactness of these minute details is in keeping with the treatment on divers maps of the really well-known islands of the eastern Atlantic archipelagoes, except that the comparative smallness of a Teneriffe, a Terceira, or even a Madeira, offered less opportunity. The slant of the island is very slightly east of north, obviously quite different from the actual longitudinal direction of the even more elongated Queen of the Antilles.

Reylla

Behind the lower part of Antillia, much as Jamaica is behind the eastern or lower part of Cuba, and about in similar proportions of relative area, Beccario shows a smaller but, nevertheless, considerable island, pentagonal in outline, mainly square in body, with a low westward-pointing broad-based triangular extension. He gives it the impressive name of Reylla, King Island, not ill suited to the royal beauty of that mountainous gem of the seas.

Salvagio

North of Antillia and nearly in line with it, but at a rather wide interval, he shows Saluagio or Salvagio ("u" and "v" being equivalent), which has the same name then long given to a wild and rocky cluster of islets between Madeira and the Canaries, that still bears it in the form Salvages. Wherever applied the name is bound to denote some form of savageness; perhaps "Savage Island" is an adequate rendering, the second word being understood. This Salvagio imitates the general form of Antillia on a reduced scale, being, nevertheless, much larger than any other island in the Atlantic south of the parallel of Ireland. Like

Antillia, its eastern and western faces are provided with highly artificial bays, three in each. Its northern end is beveled upward and westward. I think this large island probably represents Florida, similarly situated to the northward of Cuba and divided from it by Florida Strait. Its area must have been nakedly conjectural, as much later maps show its line of supposed severance from the mainland to have been drawn by guesswork.

I in Mar

The inclined northern end of Salvagio is divided by a narrow sea belt from I in Mar, which has approximately a crescent form and a bulk not very different from that commonly ascribed at that time to Madeira. "I," of course, stands for Insula or one of its derivatives, such as Illa, a word or initial applied or omitted at will. "Island in the Sea" is probably the true rendering, though formerly the initial and the two words were sometimes blended, as Tanmar or Danmar, to the confusion of geographers. A larger member of the Bahama group lying near the Florida coast would seem to fill the requirements, being naturally recognized as more at sea than Florida or Cuba. Great Abaco and Great Bahama are nearly contiguous and, considered together, would give nearly the required size and form; but it is not necessary to be individual in identification. Possibly Insula in Mar as drawn was meant to be symbolical and representative of the sea islands generally rather than to set forth any particular one of them.

The Roselli Map of 1468

The Roselli map of 1468,[21] the property of the Hispanic Society of America, New York City, is nearly as complete as the Beccario map of 1435. It lacks only the western part of Reylla (a name here corrupted into "roella"), by the reason of the limitations of the material. These maps were generally drawn on parchment made of lambskin with the narrow neck of the skin presented toward the west, perhaps as the quarter in which unavoidable

[21] E. L. Stevenson: Facsimiles of Portolan Charts Belonging to the Hispanic Society of America, *Publs. Hispanic Soc. of Amer. No. 104*, New York, 1916, Pl. 2.

omissions were thought to do the least harm. Because of the island's position on the very edge of the skin, its outline, although unmistakable, is faint and in a few decades of exposure of the original might have vanished altogether. This raises the question whether certain outlines, now missing but plainly called for, on other maps of the same period, have not met with the same fate. Probably this has happened. Antilia—spelled thus—is plain in name and outline; so is the island next above it, spelled Saluaega. The "I" is omitted from I in Mar, as was often done in like cases, and the words "in Mar" are uncertain, but seem as above. The island figure is correctly given by Beccario's standard, and in general the representation of the island series is almost exactly the same. Perhaps the most discernible difference is a very slight northwestern trend given to Antillia, instead of the equally slight northeastern inclination in Beccario's case.

The Bianco Map of 1436

The Bianco map of 1436[22] (Fig. 25) was the first of the Antillia maps to attract attention in quite modern times but has suffered far worse than Roselli's in the matter of limitation. The border of the material cuts off all but Antillia and the lower end of Salvagio, to which Bianco has given the strange name of La Man (or Mao) Satanaxio, generally translated "The Hand of Satan" but believed by Nordenskiöld to be rather a corruption of a saint's name, perhaps that of St. Anastasio. It remains a mystery, though one hypothesis connects it with a grisly Far Eastern tale of a demon hand. The initial "S" is all that Satanaxio has in common with the names for this island on the other maps that show it; and, as nearly all of these present very slight changes from Salvagio, easily to be accounted for by carelessness or errors in copying, the latter name is fairly to be regarded as the legitimate one, while Satanaxio remains unique and grimly fanciful, perhaps to be explained another day. The most that can be said for its generally accepted meaning is that it corrobo-

[22] A. E. Nordenskiöld, Periplus, Pl. 20. Cf. also Kretschmer, atlas, Pl. 4, map 2.

rates Salvagio in so far as it intensifies savagery to diabolism. One is tempted to speculate as to whether any very cruel treatment from the natives had formed part of the experience of the visitors along that shore; but there is no known fact or assertion upon which to base such an idea. As to the delineation of the islands, it is quite evident that Bianco showed the same group as Beccario and Roselli so far as circumstances permitted; and there is no reason to believe that the islands for which he had no room would have differed from theirs in his showing, if admissible, any more than his Antillia differs; that is to say, hardly at all.

Humboldt was so impressed by this map of Bianco that he took the pains of measuring upon it the distance of Antillia from Portugal, making this about two hundred and forty leagues: an unreliable test, one would say, for the distances over the western waste of waters probably were not drawn to scale nor supposed to approach exactness. For that matter, the interval between Portugal and the Azores, as shown on maps for nearly a hundred years, was greatly underestimated, and the discrepancy becomes more glaring as the islands lie farther westward, Flores and Corvo being conspicuous examples. We should naturally expect to find the West Indies reported much nearer than they really are by anyone mapping a record of them. Perhaps the explanation lies in a disposition of cartographers to expect and allow for a great deal of nautical exaggeration in the mariners' yarns that reached them. A careful man might come at last to believe in the existence of an island but doubt if it were really so very far away.

The Pareto Map of 1455

Pareto, 1455, has a very interesting and elaborate map[23] (Fig. 21) showing Antillia, Reylla, and I in Mar (the latter without name) in the orthodox size, shape, and position, but with a great gap between Antillia and I in Mar where Salvagio should be. Very likely it was there once. Perhaps this is another case of

[23] Kretschmer, atlas, Pl. 5.

FIG. 21—Section of the Pareto map of 1455 showing the Antilles, St. Brendan's Islands, Daculi, and others. (After Kretschmer's hand-copied reproduction.)

fading away. One doubts whether the loss might not still be retrieved by more powerful magnifying glasses and close study of the significant interval. Pareto is unmistakably disclosing the same series of islands as the others. It may be that from him Roselli borrowed the inaccurate "roella" for Reylla, since Pareto is earlier in using a similar form (Roillo).

The Benincasa Map of 1482

Benincasa's map of 1482[24] (Fig. 22) presents Salvagio as Saluaga, and I in Mar without name, but omits Reylla, both name and figure. The islands shown are in their accepted form and arrangement, except that Saluaga has but two bays on the western side, and his map adds a novelty in a series of names applied to the several bays, or the regions adjoining them, of the two larger islands. These names (Fig. 22) are twelve in number and seem like the fanciful work of some Portuguese who was haunted by a few Arabic sounds in addition to those of his native tongue. Several of them, like Antillia, begin with "An," perhaps another illustration of the law of the line of least resistance. I cannot think that there is any significance in these bits of antiquated ingenuity, though, as we have seen in Chapter V, some have believed they found in them a relic of the Seven Cities legend.

The Weimar Map (after 1481)

The Weimar map,[25] though long carefully housed, has suffered blurring and fading with some other damage in its earlier history. It is evidently a late representative of the tradition and begins to wander slightly from the accepted standard. It has been curtailed also from the beginning, like Bianco's map of 1436, by the limitations of the border, which in this instance cuts off the lower part of Antillia, though the name is nearly intact; but enough remains to indicate a reduced relative size and a greater slant to the northeastward than on Beccario's map. There is, of course, no room for Reylla, and there is none for I in Mar; but

[24] Kretschmer, atlas, Pl. 4.
[25] See footnotes 18 and 19.

FIG. 22—Section of the Benincasa map of 1482 showing the Antilles, St. Brendan's Islands, and others. (After Kretschmer's hand-copied reproduction.)

Salvagio is given plainly and fully, with the letter S quite conspicuous. I cannot read more of the name on the photograph; but the Weimar librarian reads San on the original, being uncertain as to the rest. This map bears traces of local names arranged in places like those of Benincasa but fragmentary and illegible. Perhaps these names tend to show that the maps belong not only to the same period, but to the same general school of develop-

ment. The other differences between this map and its predecessors are trivial. The general idea of the island series is the same so far as it is disclosed, and it is hardly to be doubted that all elements of the islands of Antillia would have been presented in the main on this map as they are by Roselli and Beccario, if there had been room to do so.

The Laon Globe of 1493

The Laon globe,[26] 1493, though mainly older, certainly had room enough, but it appears to have formed part of some mechanism and to have had only a secondary or incidental, and in part rather careless, application to geography. It shows two elongated islands, Antela and Salirosa, undoubtedly meant for Antillia and Salvagio. Perhaps the globe maker had at command only a somewhat defaced specimen of a map like Bianco's or that of Weimar, showing perforce only two islands, and merely copied them, guessing at the dim names and outlines, without thinking or caring whether anything more were implied or making any farther search. This is apparently the last instance in which the larger two islands of the old group or series, marked by their traditional names or what are meant for such, appear together.

Other Maps

It may seem strange that certain other notable maps, for example Giraldi 1426,[27] Valsequa 1439,[28] and Fra Mauro 1459,[29] show nothing of Antillia and its neighbors. Perhaps the makers were not interested in these far western parts of the ocean, or the narratives on which Beccario and the rest based their maps had not reached them; more likely they were skeptical and unwilling to commit themselves.

[26] A. E. Nordenskiöld, Facsimile-Atlas, p. 73, map in text.

[27] Theobald Fischer, Portfolio 8 (Facsimile del Portolano di Giacomo Giraldi di Venezia dell' anno 1426).

[28] Original in Majorca. A good copy is owned by T. Solberg, Register of Copyrights, Washington, D. C.

[29] Theobald Fischer, Portfolio 15 (Facsimile del Mappamondo di Fra Mauro dell' anno 1457 [1459]).

It is also true that the Antillia of Beccario and others is made to extend nearly north and south instead of east and west; that I in Mar is placed north of its greater neighbor instead of east; and that the whole chain of islands is moved into considerably more northern latitudes than the group which we suppose them to represent. Thus the eastern, or lower, end of Cuba is actually in the latitude of the lower part of the Sahara, and a point above the upper end of Florida would be in the latitude of the upper part of Morocco; whereas in the maps discussed the average location of the chain from the lower end of Antillia to the most northerly island, I in Mar, would run from the latitude of northern Morocco to that of southern France. There are slight individual differences in this matter of extension, but I believe Antillia always begins below Gibraltar and ends above northern Spain and a little below Bordeaux. But some dislocation, of course, is to be looked for in mapping exploration in an unscientific period. The changes of direction and extension are not greater than in the American coast line of Juan de la Cosa's very important map of 1500,[30] not to mention even more extravagant instances of later date; and the shifting of latitudes may partly be accounted for by ignorance of the southward dip of the isothermal lines in crossing the Atlantic westward. Thus a Portuguese sailor on reaching a far western island or shore having what seemed to him the climate and conditions of Gascony would be likely to suppose that it was really opposite Gascony, though in fact it might be more nearly opposite the Canaries; and the same cause of error would apply all down the line. Cuba is not really directly opposite Portugal but may easily have been believed so.

Identity of Antillia with the Antilles

A more difficult question is raised by the absence of Haiti and Porto Rico from these maps, with all the more eastward Antilles. But it is possible that they may not have been visited or even seen. We can imagine an expedition that would touch Great

[30] Kretschmer, atlas, Pl. 7.

Abaco, coast along Florida and Cuba, and visit Jamaica, returning out of sight, or with little notice, of the Haitian coast and barely passing an islet or two of the Bahamas, which, if not sufficiently commemorated in a general way by Insula in Mar, might well be disregarded. A report of such an expedition, adding that Antillia was directly opposite Portugal and of about equal size, would account fairly for the map which for half a century was faithfully repeated even in details by many different hands and evidently confidently believed in.

Unless we accept this explanation, we must assume an uncanny, almost an inspired, gift of conjecture in some one who, without basis, could imagine and depict the only array of great islands in the Atlantic. Certainly the outlines of Cuba, Jamaica, Florida, and one of the Bahamas will very well bear comparison with Scandinavia or the Hebrides and the Orkneys as given on maps of equal or even later date. Some glaring errors are to be expected in such work, as notoriously occurred in the sixteenth-century treatment of Newfoundland and Labrador. Applying the same tests and canons and making the same allowances as in these cases of distortion of undoubtedly actual lands, we may be reasonably confident that the Antillia of 1435 was really, as now, the Queen of the Antilles.

CHAPTER XI

CORVO, OUR NEAREST EUROPEAN NEIGHBOR

Far at sea from Portugal, straggling in a long northwestward line toward America, lies the archipelago sometimes called the Islands of the Sun or the Western Islands but now generally known as the Azores. That line breaks into three divisions separated by wide gaps of sea: the most easterly pair, St. Michael and St. Mary; the main cluster of five islands, Pico being the loftiest and Terceira the most important; and the northwesterly pair, Flores and Corvo. These last make a little far-severed world of their own, sharing in none of the tremors and upheavals which from time to time more or less transform parts of the other two divisions. The remote origin of the pair was volcanic, and Corvo is little more now than an old crater lifted about 300 feet above the surface; but the fires have long been dead, and in historic times the lower strata have never shifted suddenly to produce any great earthquake. There have been changes, but they must be attributed for the most part to gradual subsidence.

These two islands, though almost as near to Newfoundland as to any point in Portugal, cannot be classed as American; yet Corvo in particular seems to have impressed the imagination of ancient and medieval explorers with a sense of some special relation to regions beyond, though possibly only to the entangling Sargasso Sea of weeds, which would lie next in order southwestward (Fig. 1), and the menacing mysteries of the remoter wastes of the Atlantic. It may have been felt as the last stepping stone for the leap into the great unknown.

Origin of the Name

Flores, the island of flowers, thus prettily renamed by the Portuguese, is referred to as the rabbit island, Li Conigi, in the

fourteenth-century maps and records; but Corvo has always borne, in substance, the same name, one of the oldest on the Atlantic. Probably the very first instance of its use is in the Book of the Spanish Friar,[1] written about 1350 (the author says he was born in 1305), rather recently published in Spanish and since translated for the Hakluyt Society publications by Sir Clements Markham. After relating alleged visits to more accessible islands of the eastern Atlantic archipelagoes, from Lanzarote and Tenerife of the Canaries to São Jorge (St. George) of the Azores, he continues: "another, Conejos [doubtless Li Conigi], another, Cuervo Marines [Corvo—the sea crow island], so that altogether there are 25 islands."

This account may not actually be later than the Atlante Mediceo map,[2] attributed to 1351—may even have been suggested by it, as some things seem to indicate. The Friar's voyages are perhaps merely imaginary, their variety and total extent being hardly believable. This very important map has been best reproduced in the collection by Theobald Fischer; on it the same name (Corvi Marinis) seems to be applied to both islands collectively, the plural form "insule" being used to introduce it. Both names appear on the Catalan map of 1375.[3] It is more than probable that they date at least from the earlier half of the fourteenth century.

Possibly the name Corvo had been carried over by a somewhat free translation from the older Moorish seamen and cartographers, who dominated this part of the outer ocean from

[1] Book of the Knowledge of All the Kingdoms, Lands, and Lordships That Are in the World, and the Arms and Devices of Each Land and Lordship, or of the Kings and Lords Who Possess Them, written by a Spanish Franciscan in the middle of the 14th century, published for the first time with notes by Marcos Jiménez de la Espada in 1877, translated and edited by Sir Clements Markham, *Hakluyt Soc. Publs.*, 2nd Ser., Vol. 29, London, 1912; reference on p. 29.

[2] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 5 (Facsimile del Portolano Laurenziano-Gaddiano dell' anno 1351), Pl. 4.

[3] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing-Directions, transl. by F. A. Bather, Stockholm, 1897, Pl. 11. Our reproduction (Fig. 5) does not extend far enough south to show the islands.

the eighth century to the twelfth. Edrisi,[4] greatest of Arab geographers, writing for King Roger of Sicily about the middle of the twelfth century, tells us, among other items, of the eastern Atlantic:

> Near this isle is that of Râca, which is "the isle of the birds" (Djazîrato 't-Toyour). It is reported that a species of birds resembling eagles is found there, red and armed with fangs; they hunt marine animals upon which they feed and never leave these parts.

This statement recalls the cormorants, which are supposed to be meant by the sea crows, "corvi marinis" of the later maps. They would naturally flock about the submerged ledges and the wild shore of Corvo and may be held to suggest either the crow or the eagle, though not closely resembling either. Everywhere they are the scavengers of the deep seas. Edrisi mentions a legendary expedition sent by the "King of France" after these birds. It ended in disaster. The pictorial record on the Pizigani map of 1367[5] (Fig. 2), of Breton ships in great trouble with a dragon of the air and a kraken, or decapod, on the extreme western border of navigation, may conceivably refer to this experience.

Ancient Memorials

But Corvo has even more ancient traditions and associations, Diodorus Siculus,[6] in the first century before the Christian era, wrote of a great Atlantic island, probably Madeira, which the

[4] Edrisi's "Geography," in two versions, the first based on two, the second on four manuscripts, viz.: (1) P. A. Jaubert (translator): Géographie d'Edrisi, traduite de l'Arabe en Français, 2 vols. (Recueil de Voyages et de Mémoires publié par la Société de Géographie, Vols. 5 and 6), Paris, 1836 and 1840; reference in Vol. 1, p. 201; (2) R. Dozy et M. J. De Goeje (translators): Description de l'Afrique et de L'Espagne par Edrisi: Texte arabe publié pour la première fois d'après les man. de Paris et d'Oxford, Leiden, 1866, pp. 63–64.

[5] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . . , Paris, [1842-62], Pl. X, 1. Also W. H. Babcock: Early Norse Visits to North America, *Smithsonian Misc. Colls.*, Vol. 59, No. 19, Washington, D. C., 1913, Pls. 1 and 2.

[6] The Historical Library of Diodorus the Sicilian, in 15 Books: to which are added the fragments of Diodorus, and those published by H. Valesius, I. Rhodomannus, and F. Ursinus, transl. by G. Booth, Esq., 2 vols., London, 1814; reference in Vol. 1, Bk. 5, Ch. 2, pp. 308–309.

Etrurians coveted during their period of sea power; but the Carthaginians, its first discoverers, prohibited them, wishing to keep it for their own uses. If the Etrurians were thus well informed concerning one island of these eastern Atlantic archipelagoes, it is a fair conjecture that they had visited the others.

However this may be, it seems that the Carthaginians left memorials on Corvo. At least this is the most reasonable explanation of the extraordinary story repeated by Humboldt[7] in the "Examen Critique," apparently with full faith in its main feature at least, notwithstanding the fascinating atmosphere of romance and wonder which hangs about the details. In the month of November, 1749, it appears, a violent storm shattered an edifice (presumably submerged) off the coast of Corvo, and the surf washed out of a vault pertaining to the building a broken vase still containing golden and copper coins. These were taken to a convent or monastery (probably on some neighboring island). Some of them were given away as curiosities, but nine were preserved and sent to a Father Flores at Madrid, who gave them to M. Podolyn. Some of them bore for design the full figure of a horse; others bore horses' heads. Reproductions of the designs were published in the *Memoirs of the Gothenburg Royal Society*[8] and compared with those on coins in the collection of the Prince Royal of Denmark. It seems to be agreed that they were certainly Phoenician coins of North Africa, partly Carthaginian.

It has been suggested[9] that they may have been left by Norman or Arab seafarers, who certainly journeyed among the Azores in the Middle Ages. But, as Humboldt points out, that these should have left a hoard of exclusively Phoenician coins, so much more ancient than their own, without even a single specimen of any other mintage, appears very unlikely. On the other hand, it

[7] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent et des progrès de l'astronomie nautique aux quinzième et seizième siècles, 5 vols., Paris, 1836–39; reference in Vol. 2, pp. 237–240.

[8] *Det Götheborgska Wetenskaps och Witterhets Samhällets Handlingar*, Vol. 1, 1778, pp. 106-108, and Pl 6. See also Moedas phenicias e cyrenaicas encontradas em 1749 na ilha do Corvo, *Archivo dos Açores*, Vol. 3, pp. 11–113.

[9] Conrad Malte-Brun: Précis de géographie universelle, 8 vols., Paris, 1810–29; reference in Vol. 1 of that edition, constituting "L'Histoire de la Géographie," 1810, p. 596.

is true that Phoenician vessels sailing northward in the tin or amber traffic would hardly be likely to be storm-driven so far northwestward as Corvo; St. Michael would have been a more natural involuntary landfall. This objection does not apply, however, if we suppose the deposit to be the work not of accident, but of full intention and deliberation, as the alleged edifice and vault would certainly tend to show. If these coins were deposited by Phoenicians who erected permanent buildings, the remoteness of the island would be only an added reason for commemoration. The coins might have been immured in the vault for safe keeping or might have been enclosed in the corner stone, in accordance with the general custom of placing coins and records in the corner stones of notable structures.

Of course these details cannot be confidently accepted. As Humboldt suggests, it is to be regretted that we are without information as to the period or character of the edifice in question. But at least it seems most probable that Phoenicians occupied or at any rate visited this island and deposited coins of Carthage.

Equestrian Statues

Furthermore, Corvo is one of several Atlantic islands reputed to have been marked by monuments generally of one type. Edrisi[10] knows of them in Al-Khalidat, the Fortunate Isles—bronze westward-facing statues on tall columnar pedestals. There are said to have been six such in all, the nearest being at Cadiz. Tradition places an equestrian statue also on the island of Terceira, as repeated in a much more modern work.[11] The Pizigani map of 1367, it will be remembered, shows (Fig. 2) near where Corvo should be the colossal figure of a saint warning mariners backward, with a confused inscription declaring westward navigation impracticable beyond this point by reason of obstructions and announcing that the statue is erected on the shore of

[10] Edrisi, (Dozy and De Goeje), p. 1.

[11] S. Morewood: Philosophic and Statistical History of Inventions and Customs, . . . Inebriating Liquors, Dublin, 1838, p. 322.

Atilie. But perhaps the best and most apposite account is that of Manuel de Faria y Sousa in the "Historia del Reyno de Portugal:"

> In the Azores, on the summit of a mountain which is called the mountain of the Crow, they found the statue of a man mounted on a horse without saddle, his head uncovered, the left hand resting on the horse, the right extended toward the west. The whole was mounted on a pedestal which was of the same kind of stone as the statue. Underneath some unknown characters were carved in the rock.[12]

Apparently the reference is to the first ascent of Corvo after its rediscovery between 1449 and 1460. The mention of "characters" recalls those found in a cave of St. Michael, also by rediscoverers, during the same period, as related by Thevet[13] long afterward, most likely from tradition. A man of Moorish-Jewish descent, who was one of the party, thought he recognized the inscription as Hebrew, but could not or did not read it. Some have supposed the characters to be Phoenician. There is naturally much uncertainty about these stories of very early observations by untrained men, recorded at last, as the result of a long chain of transmissions: but they tend more or less to corroborate the other evidences of Phoenician presence.

It may be possible that the persistent and widely distributed story of westward-pointing equestrian statues marking important islands may have grown out of the ancient mention of the pillars of Saturn, afterward Hercules, and Strabo's discussion[14] as to whether they were natural or artificial in origin; but this puts a severe strain on fancy. We know that the Carthaginians did set up commemorative columns; and that the horse figured conspicuously in their coinage. Nothing in the enterprising character of the Phoenician people is opposed to the idea of incitement to exploration westward. It seems easier to believe that they set up these statuary monuments on one island after another than that the whole tradition has grown out of a misunderstanding. Such

[12] Humboldt, Examen critique, Vol. 2, p. 227.

[13] André Thevet: La cosmographie universelle, 2 vols., Paris, 1575; reference in Vol. 2, p. 1022.

[14] The Geography of Strabo, transl. by H. C. Hamilton and W. Falconer (Bohn's Classical Library), 3 vols., London, 1854; reference in Vol. 1, pp. 255–257.

statues might well vanish subsequently as completely as the great silver "tabula" map of Edrisi and many other valuable things of olden time.

Corvo has no statue now; but it is reputed to hold a statue's representative. Captain Boid (1834) relates:

> Corvo is the smallest, and most northerly of the Azores, being only six miles in length, and three in breadth, with a population of nine hundred souls. It is rocky and mountainous; and on being first descried, exhibits a sombre dark-blue appearance, which circumstance gave rise to its present name, whereby it was distinguished by the early Portuguese navigators. . . . It is not known at what period this island was first visited, though from a combination of circumstances, it is supposed, about the year 1460. The inhabitants are ignorant, superstitious, and bigoted, in the highest degree, and relate innumerable ridiculous traditions respecting their country. Amongst other absurdities they state, with the utmost gravity, that to Corvo is owed the discovery of the western world —which, they say, originated through the circumstance of a large projecting promontory on the N. W. side of the island, possessing somewhat of the form of a human being, with an outstretched arm toward the west; and this, they have been led to believe, was intended by Providence, to intimate the existence of the new world. Columbus, they say, first interpreted it thus; and was here inspired with the desire to commence his great researches.[15]

Captain Boid was wrong in his derivation of the name Corvo, as we have seen; wrong also, in another way, in despising the "superstitions" as "absurd" and refusing them record, for they might embody some valuable suggestion. Humboldt thought, however, that the story of the pointing horseman might have grown out of this natural rock formed in human semblance. No doubt this is possible; but it would not account for like stories of the other islands nor the general similitude of their figures. Perhaps an equally valid explanation might be found in the former presence of such artificial figures, leaving a certain repute behind them and causing popular fancy to point out resemblances which would not have been noticed otherwise.

[15] Captain Boid: A Description of the Azores, or Western Islands, London, 1834, pp. 316–317.

A more recent mention of this pointing rock occurs in "A Trip to the Azores" by Borges de F. Henriques, a native of Flores. He says:

> Another natural curiosity which has been defaced by the weather and the bad taste of visitors is a rock resembling a horseman with the right arm extended to the westward as if pointing the way to the new world. Some insular writers deny the existence of this rock.[16]

Need of Exploration

There seems still a good deal of vagueness about the matter, and Corvo might well be given a thorough overhauling for vestiges of ancient times. This naturally should be extended to the submerged area close to the shore, for the outlying reefs and ridges may mark the site of lower lands where human work once went on and where its traces and relics may remain. In expanse the island probably was not always what we find it now, six miles in length by at most three in breadth (seven square miles in all, as most accounts compute it) with fringes of rock running off from the shore, "lifting themselves high above the water in one place, blackening the surface in another, and again sinking to such a depth that the waves only eddy and bubble over them." Mr. Henriques says elsewhere: "In many of the islands, but especially in Flores, there are vestiges clearly indicating that formerly as well as lately parts of the island have sunk or rather disappeared in the sea." He cites for instance a notable loss of land in the summer of 1847.

There is reason to believe that Corvo has dwindled in this way much more, proportionately, than Flores. One striking indication is found in the comparison of the present map with those of the fourteenth and fifteenth centuries. For convenience sketches of these are appended (Fig. 23). The relative position of the islands is about the same in all. The form of Corvo varies from the pear shape of the Laurenziano map (1351),[17] and another shape[18]

[16] Borges de F. Henriques: A Trip to the Azores or Western Islands, Boston, 1867, pp. 35–36.

[17] Theobald Fischer, Portfolio 5, Pl. 4.

[18] *Idem*, Portfolio 7, Pl. 4.

not much later slightly resembling an indented segment of a circle, to the three-lobed or clover-leaf form which was accepted as the final convention or standard and first clearly appears in the great Catalan atlas[19] of 1375, repeated by Beccario 1435[20], Benincasa 1482[21], and others; but all agree in making Corvo the main island and Li Conigi (Flores) a minor pendant. Corvo seems in every way to have commanded chief attention,

FIG. 23—Representation of Corvo on fourteenth- and fifteenth-century maps as compared with its present outline. (The sources may be identified from the text.)

and in size the difference was conspicuous and decisive. The difference certainly is great enough now, but conditions and proportions are reversed. Corvo has but one-eighth the area of Flores and less than one-tenth the population. In all ways it lacks advantages and conveniences, taking rather the place of a poor dependent.

[19] A. E. Nordenskiöld, Periplus, Pl. 11 (not shown on Fig. 5).

[20] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates). Also Babcock, Early Norse Visits to North America, Pl. 4. See our Fig. 20.

[21] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 4. See our Fig. 22.

There is no good reason for discrediting so many of the old maps. Their makers sometimes went wrong; but they tried to be accurate and would hardly, through a century or two, persist in making the northern island the greater one unless it was at first really so. Of course the most natural solution of the difficulty is that Corvo's border has sunk or the sea has risen over it, completely drowning the territory which made the lobes or curved outline of the island form in the medieval maps and leaving only above water its rocky backbone, with the crater for a nucleus. Apparently those lobes and their contents are just what might be most profitably dredged for and dived after.

Perhaps the island has not greatly changed since Mr. Henriques wrote his little sketch of it in the sixth decade of the last century:

> The first part of the ride to it [the crater] is through steep and narrow lanes walled in with stones. Over those walls you can sometimes see the country right and left, which is divided into small and well-cultivated compartments by low stone walls. These small fields form narrow terraces, one above another, looking from the sea like steps in the hills. An hour's ride brings you to an open mountain covered with heath where browse flocks of sheep and hogs, and about an hour and a half more to the crater on the summit, now a quiet green valley, with a dark, still pond in the center. . . .
>
> The Corvoites, particularly the women, are a happy and industrious people and have strong and healthy constitutions. The men in trade evince a remarkable shrewdness, proverbial among the other Azorians, but in private life their manners are simple and unassuming. . . . They are like a large family of little less than a thousand members, all living in the only village on the island.[22]

[22] Borges de F. Henriques, pp. 35–36.

CHAPTER XII

THE SUNKEN LAND OF BUSS AND OTHER PHANTOM ISLANDS

Beside those legendary Atlantic islands that may cast some light on visits of white men to America before Columbus or have been at some time linked therewith by speculation or tradition—notably Antillia and its consorts, Brazil, Man or Mayda, Green Island, Estotiland and Drogio, the Island or Islands of St. Brendan, and the Island of the Seven Cities—there are numerous others, quite a swarm indeed, excusing Ptolemy's and Edrisi's extravagant estimate of 27,000. Sometimes, but not always, they are of more recent origin and are explainable in various ways.

Several are linked to the idea of volcanic destruction or seismic engulfment. Of course the colossal and classical instance of Atlantis comes first into mind, it being the earliest as well as in every way the most imposing. Most likely the well-known story, repeated, if not originated, by Plato, developed naturally, as we have seen, from the insistent need to account for the obstructive weedy wastes of the Sargasso Sea beyond the Azores and recurrent facts of minor cataclysms among them.

The next oldest instance, perhaps, is supplied by Ruysch's map of 1508,[1] an inscription on which avers that an island in the sea about midway between Iceland and Greenland had been totally destroyed by combustion in the year 1456. We do not know his authority for this startling announcement. The spot is where one would naturally look for Gunnbjörn's skerries of the older Icelandic writings; and no one can find them now, unless they were, after all, but projecting points of the eastern Greenland coast. Also Iceland is at times tremendously eruptive; and this

[1] A. E. Nordenskiöld: Facsimile-Atlas to the Early History of Cartography, transl. by J. A. Ekelöf and C. R. Markham, Stockholm, 1889, Pl. 32.

islet, or these islets, would not be far away. The assertion is not in itself incredible, but there seems no corroboration.

The Discovery of Buss

The "Sunken Island of Buss" presents a suggestion of engulfment on a more extensive scale. The whole episode is of rather recent date, Buss being the latest born of mythical or illusory islands, unless we except Negra's Rock and other alleged and unproven apparitions of land on a very small scale, which may not have wholly ceased even yet. Buss is, at any rate, the one moderately large phantom map island the time and occasion of whose origin are securely recorded. For, as narrated by Best and published in Hakluyt's compilation, on Frobisher's third voyage (1578), one of his vessels, a buss, or small strong fishing craft, of Bridgewater, named *Emmanuel*, made the discovery. In his words:

> The Buss of Bridgewater, as she came homeward, to the southeastward of Frisland, discovered a great island in the latitude of 57 degrees and a half, which was never yet found before, and sailed three days along the coast, the land seeming to be fruitful, full of woods, and a champaign country.[2]

Best must have had his information at second or third hand, with liberal play of fancy in the final touches on the part of his informant or himself. His was the first account published, but not long afterward appeared that of an eyewitness, "Thomas Wiars, a passenger in the *Emmanuel*, otherwise called the Busse of Bridgewater," repeated in Miller Christy's admirable little treatise on the subject.[3] Wiars says they fell with Frisland (probably a part of Greenland) on September 8 and on September 12 reached this new island, coasted it for parts of two days, and considered it 25 leagues long. There was much ice near it. He gives no suggestion of fertility, woods, or fields.

[2] E. J. Payne, edit.: Voyages of the Elizabethan Seamen to America: Select Narratives from the Principal Navigations of Hakluyt, Ser. 1, Hawkins, Frobisher, Drake, 2d edit., Oxford, 1893, p. 183. Cf. also E. W. Dahlgren's note in *Proc. and Trans. Nova Scotian Inst. of Sci.*, Vol. 11, 1902–06, p. 551.

[3] Miller Christy: On "Busse Island," in C. C. A. Gosch: Danish Arctic Expeditions 1605 to 1620, Bk. I: Expeditions to Greenland, *Hakluyt Soc. Publs.*, 1st Series, Vol. 96, London, 1897, Appendix B, pp. 164–202; reference on p. 167.

FIG. 24—Map of Buss Island from John Seller's "English Pilot," probably 1673. (After Miller Christy's photographic facsimile.)

Its Disappearance from the Map

The only other witnesses to the visual existence of the island, so far as recorded, were James Hall (probably by honest mistake) in 1606 and Thomas Shepherd (gravely distrusted) in 1671.[4] Nevertheless an impressive insular figure grew up in the maps, bearing the name "Buss" to commemorate the vessel that first found it. In some instances it was made a very large island indeed. Shepherd's map, reproduced herewith (Fig. 24), was accompanied by a brief descriptive narrative which may be attributed to a fancy for yarning, with no strong curb of conscience on the fancy. Buss remained an accepted figure of geography for considerably more than a century.

Quite naturally, however, the efforts of reliable searchers failed to find this island again, for it was not really there. A theory of cataclysm seemed more acceptable than to discard outright what so many maps, books, and traditions had attested. Van Keulen's chart of 1745[5] led the way with the inscription "The submerged land of Buss is nowadays nothing but surf a quarter of a mile long with rough sea. Most likely it was originally the great island of Frisland." So the name "Sunken Land of Buss" passed into general use with geographic sanction. After much disturbance of mariners' and cartographers' minds not only the phantom island but its legacy, the supposed line of breakers and dangers, vanished altogether from the records. There is no "Buss" to be found on maps after about the middle of the nineteenth century, though the preceding hundred years had been prolific in them. Probably we must suppose a later date for the cessation of current mention of the sunken land of that name, in recognition of what, according to belief, once had been but existed (above water) no longer.

Indeed, even after the opening of this twentieth century the same hypothesis has revived,[6] with scientific support of a sub-

[4] Miller Christy, pp. 171 and 173.

[5] Nieuwe wassende zee caart van de Noord-Oceaen, med een gedeelte van de Atlantische, etc., Amsterdam, 1745 (as cited by Miller Christy, *op. cit.*, p. 178, footnote 1).

[6] H. S. Poole: The Sunken Land of Bus, *Proc. and Trans. Nova Scotian Inst. of Sci.*, Vol. 11, 1902–06, pp. 193–198. See also: Sir John Murray and R. E. Peake:

marine range in 53° N. and 35° W., really ocean-bottom mountains 8,000 feet high between Ireland and Newfoundland, reported upon in 1903 by Captain de Carteret of the cable ship *Minia*. They are not on the same spot and would still require a great lift to reach the surface. Of course their past sinking is not impossible, but there is no need to explain Buss by cataclysm any more than Mayda or Brazil Island, Drogio or Icaria.

Islands of Demons

Somewhat allied by nature to these reported isles of destruction and disappearance are the islands of imported diabolism, appearing on maps now and then through the centuries. Bianco's "The Hand of Satan" (1436[7]; Fig. 25), if correctly translated (see Ch. X, p. 156), is probably the first to present this quality. He locates the sinister island well to the southward; but the most pictorial appearance is Gastaldi's (for Ramusio) "Island of Demons,"[8] with its eager and capering imps at the bleak and savage northern end of Newfoundland. The preferred site, however, would seem to be yet a little farther north. Ruysch, in the map referred to above, which announces the burning up of Gunnbjörn's skerries, exhibits two Insulae Demonium near the middle of the dreaded Ginnungagap passage between Labrador and Greenland. There is no suggestion of volcanic action in their case, and it does not appear that any real islands occupied the spot. The reason for the delineation and the name is still to seek.

The map of 1544, attributed to Sebastian Cabot,[9] makes a single island of them, "marked Y. de Demones", and brings it

On Recent Contributions to the Knowledge of the Floor of the Atlantic Ocean, Royal Geogr. Soc., London, 1904; references on pp. 8 and 10 and inset "Soundings Taken by S. S. Minia, 1903" of the accompanying chart.

[7] A. E. Nordenskiöld: Periplus: An Essay on the Early History of Charts and Sailing Directions, transl. in F. A. Bather, Stockholm, 1897, Pl. 20.

[8] Justin Winsor: Cartier to Frontenac: Geographical Discovery in the Interior of North America In its Historical Relations, 1534–1700, with Full Cartographical Illustrations from Contemporary Sources, Boston and New York, 1894, pp. 60–61.

[9] Konrad Kretschmer: Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes, 2 vols. (text and atlas), Berlin, 1892; reference in atlas, Pl. 16.

FIG. 25—Section of the Bianco map of 1436 showing the Island of the Hand of Satan and Antillia. (After Kretschmer's hand-copied reproduction.)

nearer the eastern front of Labrador below Hamilton Inlet. Agnese[10] in the same century enlarges it greatly but still keeps it just off the Labrador coast. The Ortelius map of 1570[11] (Fig. 10) shows the insular haunt of devils, plural again in form and name, but retains approximately the site chosen by Cabot. Mercator's world map of 1569[12] keeps the islands plural beside the upper tip of Newfoundland, approximating Gastaldi's position. There

[10] Kretschmer, atlas, Pl. 23.

[11] Nordenskiöld, Facsimile-Atlas, Pl. 46.

[12] Drei Karten von Gerhard Mercator: Europa—Britische Inseln—Weltkarte: Facsimile-Lichtdruck nach den Originalen der Stadtbibliothek zu Breslau, Geogr. Soc., Berlin, 1891; reference on Weltkarte, Pls. 3 and 9. See also: [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales . . ., Paris, [1842–62], Pl. XXI, 2.

seems to have been a pronounced and general concurrence of belief in diabolical evil in the northeastern coast of America, perhaps because it is there that the Arctic current brings down its tremendous freight, and tempests are at their wildest, and all barrenness and bleakness at their worst.

Saintly Islands

Much farther south, on the lines followed by Columbus and his Latin successors and in the tracks of vessels plying between the eastern Atlantic archipelagoes and the West Indies, what may be considered as a contrary impulse—that of exultant religious enthusiasm—came into play in island naming. The Island of the Seven Cities (Ch. V) will be recalled but needs no further consideration here. St. Anne, La Catholique, St. X, and Incorporado (in the sense of Christ's Incarnation) are among the more conspicuous instances. The second-named was always in low latitudes. It occurs in the latitude of the tip of Florida, in mid-Atlantic in the Desceliers map of 1546[13] (Fig. 9); also as "La Catolico" on Portuguese maps, with similar situation. Desceliers shows Encorporade (Incorporado) about east of Cape Hatteras and south of western Newfoundland; but he also has Encorporada Adonda not far from Nova Scotia. Thomas Hood (1592)[14] makes a wild and unenlightened transformation of Incorporado to "Emperadada" and puts it about opposite the site of Savannah, but not so far east as the considerable outjutting of the coast which must be meant for Cape Hatteras and its neighborhood. However, this location is not very different from that usually given it. Desceliers has two islands marked St. X, one being in the longitude of St. Michaels and latitude of Bermuda; the other in the longitude of eastern Newfoundland and latitude of the Hudson. In about the same latitude as the latter, and more

[13] Kretschmer, atlas, Pl. 17.

[14] Friedrich Kunstmann: Die Entdeckung Amerikas, nach den ältesten Quellen geschichtlich dargestellt, with an atlas: Atlas zur Entdeckungsgeschichte Amerikas, aus Handschriften der K. Hof- und Staats-Bibliothek, der K. Universitaet und des Hauptconservatoriums der K. B. Armee herausgegeben von Friedrich Kunstmann, Karl von Spruner, Georg M. Thomas, Royal Bavarian Academy of Sciences, Munich, 1859; reference in atlas, Pl. 13.

than half way between it and the Azores, an island called St. Anne is shown. There seems nothing real to prompt the derivation of these religiously named islands. Perhaps they are merely the offspring of optical delusion, fancy, and fervor.

Daculi and Bra

On the other side of the Atlantic the much earlier map island Daculi must be reckoned as of kin to them, since its map legends deal with beneficent wonder working or magical medical aid, and its name may be identical with or have originated the saintly one which still denotes an outlying Hebridean island. Though less renowned than the island of Brazil and less significant, Daculi shares with it the record for first appearance of mythical islands on portolan maps.

Dalorto's map of 1325[15] (Fig. 4) already indicated as the earliest one of much interest in this special regard, presents many islands of familiar or unfamiliar names near Ireland and Scotland. Nobody can mistake the rightly located Man, Bofim, and Brascher (the Blaskets). Insula Sau must be Skye, though with the outline of the Kintyre peninsula. Sialand seems to be Shetland. Tille may be Orkney displaced. Galuaga or Saluaga probably stands for the main body of the Long Island (Harris, Lewis, etc.) of the outer Hebrides. Bra is no doubt Barra and has generally been thus accepted, though out of line with Galuaga and too far eastward. Brazil, as already reported, is naturally farther at sea opposite Brascher. Finally our subject for present consideration, Daculi, lies off the northwestern corner of Ireland, north of Brazil Island and west of Bra, with which last it has in later maps a curious legendary association. With Insula de Montonis, as Brazil is also called on Dalorto's map, it may be linked in

[15] Alberto Magnaghi: La carta nautica costruita nel 1325 da Angelino Dalorto, with facsimile, Florence, 1898 (published on the occasion of the Third Italian Geographical Congress). Cf. also: *idem:* Il mappamondo del genovese Angellinus de Dalorto (1325): Contributo all storia della cartografia mediovale, *Atti del Terzo Congr. Geogr. Italiano, tenuto in Firenzi dal 12 al 17 Aprile, 1898*, Florence, 1899, Vol. 2, pp. 506–543; and *idem:* Angellinus de Dalorco (*sic*), cartografo italiano della prima metà del secolo XIV, *Riv. Geogr. Italiana*, Vol. 4, 1897, pp. 282-294 and 361-369

another way by their Italian names, for Daculi seems capable of that derivation, "culla" being "cradle" in that language, plural "culli," easily modified to "culi" by careless speech or writing. The introductory preposition "da" in one use has an especial relation to nativity; thus Zuan da Napoli means John born at Naples, that is John of Naples in this sense. The blending of preposition and noun in one word, "Daculi," is no more than sometimes happened on the maps to the article and noun "Li Conigi," the Rabbit Island, making it "Liconigi," now long known as Flores. This explanation would interpret Daculi as the "Island of the Cradles," or "Cradle Island." Some other derivation may indeed possibly be as defensible; but it should be borne in mind that Italian traders ranged very early up and down the Irish coast, and that name would curiously coincide with the tradition at least afterward current concerning the island.

To review a few later but still very early maps:—Dulcert, 1339,[16] shows some irrelevant changes farther north and east; but his Hebridean islands repeat very nearly the form given them by Dalorto (believed by many to be the same man), and there is no significant change in Bra or Daculi, though the first syllable of the latter becomes Di.

The Atlante Mediceo, of 1351,[17] makes more changes than Dulcert among these islands and leaves unnamed the one which by position seems meant for Bra, or Barra. Daculi is largely expanded and named Insul Dach indistinctly.

The Pizigani map of 1367[18] (Fig. 2) modifies many names. Daculi becomes Insuldacr in one word; but its place remains nearly as in Dalorto's map, though most of the other islands are drawn closer to Ireland, so that Bra is nearly stranded thereon. A line of inscription seems to relate to Bra—"Ich sont ysula qu—[possibly pronominal abbreviation] abitabi honõ quõ morit may." Perhaps

[16] Nordenskiöld, Periplus, Pl. 8.

[17] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 5 (Facsimile del Portolano Laurenziano-Gaddiano dell' anno 1351), Pl. 4.

[18] [E. F.] Jomard: Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales. . . . Paris, [1842–62], Pl. X, 1.

some of these words should be read differently, and "abitabi" needs some recasting. I will not attempt to interpret but should infer that Bra had its troubles. They do not seem to have extended to Daculi.

Pareto's fine map of 1455[19] (Fig. 21) applies the following more extended and significant legend to Daculi: "Item est altera insulla nomine Bra in qua femine que in insulla ipsa habitant non pariuntur sed quando est eorum tempus pariendi feruntur foras insulla et ibi pariuntur secundum tempus." From this we may gather that the outer island Daculi was believed to afford especial aid in childbearing to women carried thither after being baffled on the inner island Bra, and we see readily the appositeness of the name "cradle" applied to the former. Beccario's map of 1435[20] (Fig. 20), though without the legend, had already adopted in "Insulla da Culli" almost exactly the form of the name which we have divined, with apparently that meaning.

St. Kilda seems to me the most plausible original for Daculi that has been suggested. It is true that Barra is actually south of the parallel of latitude of that most lonely western sentinel of the Hebrides, and there is no obvious link of relation between them. Also the rock islet of North Barra is about as far above it, equally unconnected and not likely ever to have maintained much population. But so simple a misunderstanding on the part of the old cartographers would be no more than what happened to them all the time, and exact identity of latitude is unimportant. There is, in fact, no land on the site given Daculi in any of these old maps; and Bra, as noted, is absurdly out of place for Barra. How the tradition grew up we do not know. Perhaps it was some tale picked up by coasting Italian traders, partly misunderstood and passed on by them to the map-makers at home. St. Kilda, lost in the mists and mystery of the Atlantic, of holy name and

[19] Kretschmer, atlas, Pl. 5.

[20] Gustavo Uzielli: Mappamondi, carte nautiche e portolani del medioevo e dei secoli delle grandi scoperte marittime construiti da italiani o trovati nelle biblioteche d'Italia, Part II (pp. 280–390) of "Studi Bibliografici e Biografici sulla Storia della Geografia in Italia," published on the occasion of the Second International Geographical Congress, Paris, 1875, by the Società Geografica Italiana, Rome, 1875; reference on Pl. 8 (the second edition, Rome, 1882, does not contain the plates).

miracle-working associations, and out of touch with most tests of reality, seems a likely place to be linked to some less abnormal island by a fanciful contribution of saintly white magic, a rumor originating nobody knows how.

Grocland, Helluland, etc.

On the western side of the Atlantic there are divers instances of island names given of old—sometimes with considerable changes of location, area, or outline, or of all three—to regions which we know quite otherwise. Some of these have been dealt with extensively already. Greenland has a lesser neighbor, Grocland, on its western side in divers sixteenth-century maps; which I take to be a magnified presentation of Disko or possibly a reflection of Baffin Land brought near. It appears conspicuously in Mercator's map of the Polar basin (1569),[21] the Hakluyt map of 1587 illustrating Peter Martyr,[22] and the map of Mathias Quadus (1608).[23]

This is not the place to enlarge on the Helluland, Markland, and Vinland of the Norsemen beginning with the eleventh century, as this theme has been dealt with elsewhere.[24] But they were often thought of as islands, as shown by the notice of Adam of Bremen. Perhaps there was never any great clearness of conception as to extent or form. But in a general way they may be identified respectively with northern Labrador, Newfoundland, and the warmer parts of the Atlantic coast. Great Iceland, or White Men's Land, seems also to have been understood as what we should now call America. Eugène Beauvois located it conjecturally about the mouth of the St. Lawrence River.[25] Dr. Gustav Storm, on the other hand, thought it was merely Iceland misunderstood.[26]

[21] Drei Karten von Gerhard Mercator, Berlin, 1891; reference on Weltkarte, Pl. 13.
[22] Nordenskiöld, Facsimile-Atlas, map 82 on p. 131.
[23] *Ibid.*, Pl. 49.
[24] Early Norse Visits to North America, *Smithsonian Misc. Colls.*, Vol. 59, No. 19, Washington, D. C., 1913; Recent History and Present Status of the Vinland Problem, *Geogr. Rev.*, Vol. 11, 1921, pp. 265–282; and Chapters VII and VIII, above.
[25] Eugène Beauvois: La découverte du nouveau monde par les irlandais, Nancy, 1875.
[26] Gustav Storm: Studies on the Vineland Voyages, *Mémoires Soc. Royale des Antiquaires du Nord* (Copenhagen), N. S., 1884–89, pp. 307–370.

Stokafixa

Perhaps the latter explanation is the best yet given of the mysterious island Scorafixa, or Stokafixa, in Andrea Bianco's map of 1436.[27] It has sometimes been understood as Newfoundland, which bore long afterward the name Bacalaos, the equivalent in a different tongue of the northern "stockfish," our codfish. But it would naturally be freely applied to any island in rather high latitudes which was conspicuous for that fishery, and Stokafixa seems near of kin to Fixlanda, which figures on divers maps as a combined suggestion of Iceland and the imaginary Frisland but with geographical features mainly borrowed from the former. The first-named identification may be tempting as establishing another pre-Columbian discovery of America, but it quite lacks corroboration; and Iceland was a great center of codfishery, distributing its name and attributes rather liberally in legend and on the maps. Humboldt incidentally mentions "l'île des Morues (île de Stockfisch, *Stokafixa*)" on the seventh map of the atlas of Bianco, 1436. I do not clearly make out the name on T. Fischer's facsimile reproduction;[28] but from position and appearance the island seems meant for Iceland.

Other Map Islands in the Northwestern Atlantic

The Grand Banks and other banks of Newfoundland, with the Virgin Rocks and perhaps other piles or pinnacles rising from that bed nearly to the surface so as to be uncovered in some tides; Sable Island, a rather long way offshore; Cape Breton Island and fragments of the main shore—may be held responsible for some map islands such as Arredonda and Dobreton, Jacquet I., Monte Christo, I. de Juan, and Juan de Sampo.

[27] Alexander von Humboldt: Examen critique de l'histoire de la géographie du nouveau continent et des progrès de l'astronomie nautique aux quinzième et seizième siècles, 5 vols., Paris, 1836–39; reference in Vol. 2, p. 107.

[28] Theobald Fischer: Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs, 1 vol. of text and 17 portfolios containing photographs of maps, Venice, 1877–86; reference in Portfolio 9 (Facsimile dell' Atlante di Andrea Bianco dell' anno 1436), Pl. 7.

There are still other islands mostly north of the latitude of Bermuda and between it and the Azores or northeastern America, but far at sea, of which one can make little, except as probably complimenting some pilot, skipper, or other individual, or commemorating some incident which has nevertheless been generally forgotten. Thus Negra's Rock, which has hardly ceased to appear on the maps, does not really exist but may keep us in mind, by its rather sinister and mythical sound, that a certain Captain Negra once thought he saw something solid in the great liquid and reported accordingly. Of such origin, perhaps, are I. de Garcia, Y Neufre, Y d'Hyanestienne, Lasciennes, and divers others scattered over various maps and offering no promise of reward for hunting down their pedigrees or history. All these distinctly post-Columbian islands are quite too recent and casual to throw any light on the earlier historically and geographically significant "mythical islands" or on what these reveal.

CHAPTER XIII

SUMMARY

It seems neither practicable nor desirable to recapitulate minutely in this final chapter the rather numerous distinctive features of the present work; but attention may properly be directed to some of its salient conclusions. In stating them positively as below, here or elsewhere, I do not mean to be offensively dogmatic but to present concisely my own deductions from evidence which I have been at some pains to gather.

Atlantis was a creation of philosophic romance, incited and aided by miscellaneous data out of history, tradition, and known physical phenomena, especially by rumors of the weed-encumbered windless dead waters of the Sargasso Sea. There never was any such gorgeous and dominant Atlantic power as the Atlantis of Plato, able to overrun and conquer more than half of the Mediterranean and contend with Athens in a struggle of life and death.

St. Brendan did not cross the Atlantic nor discover any island in its remoter reaches, where some maps show islands bearing his name. He seems, however, to have visited divers eastern Atlantic islands, now well known; and it is quite likely that most of the portolan maps of the fourteenth and early fifteenth centuries are right in linking his name especially to Madeira and her neighbors.

Brazil Island is a conspicuously complex problem. Probably it represents the region around the Gulf of St. Lawrence, brought on the same parallel unduly near the Irish shore. Thus understood, it would be, presumably, but not necessarily, the cartographic record of some early Irish voyage far to the westward. It does not appear on any extant map before 1325, but maps showing the Atlantic and its remoter islands (apart from the hopeless distortions of Edrisi and certain monks) can hardly be said to have existed earlier.

Man, or Mayda, is frequently a more southern and western companion of Brazil Island on the old maps and may stand for Bermuda or for some jutting point, like Cape Cod, on the American coast. Some indications connect it with the Bretons, some with the Arabs. It has borne divers names. We cannot tell who first found and reported it.

The Island of the Seven Cities derived its name from a very credible Spanish and Portuguese tradition of escape from the Moors by sea early in the eighth century. It may first have been localized as St. Michaels of the Azores, where a valley still bears the name. Afterward it was confused for a long time with Antillia and still later was distributed rather widely over sea and land, the Seven Cities not always insisting on being insular but appearing now just back of the American Atlantic coast line, now in the far and arid Southwest.

Of the Norse discoveries in America at the opening of the eleventh century, Helluland represents the northern treeless waste of upper Labrador and beyond; Markland represents the forested zone next below, notably Newfoundland, with probably southern Labrador supplying only timber and game; and Vinland, or Wineland, represents all that immense region where the climate was milder and wine grapes grew. Straumey was Grand Manan Island; Straumfiord, Passamaquoddy Bay with Grand Manan Channel; Hop, Mount Hope Bay, R. I., or some bay of the eastern front of southern New England; the Wonderstrands, some part of the prevalent American coastal front of unending strand and dune. It is needless to particularize further.

Antillia is Cuba; Reylla, Jamaica; Salvagio, or Satanaxio, Florida; I in Mar, one or more of the Bahamas. Early in the fifteenth century some Iberian navigator, probably Portuguese, visited these islands and made the report that resulted in the addition of these islands to divers maps. They, in turn, were among the inciting causes of the undertaking of Columbus.

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